PROFILE PUBLICATIONS

The Hawker Hunter Two-Seaters

NUMBER 167

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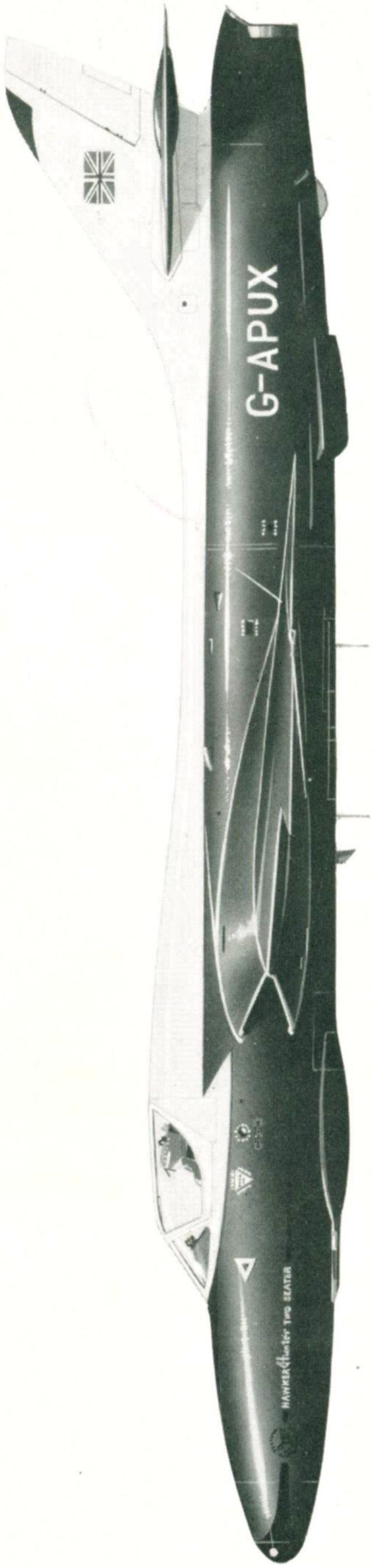
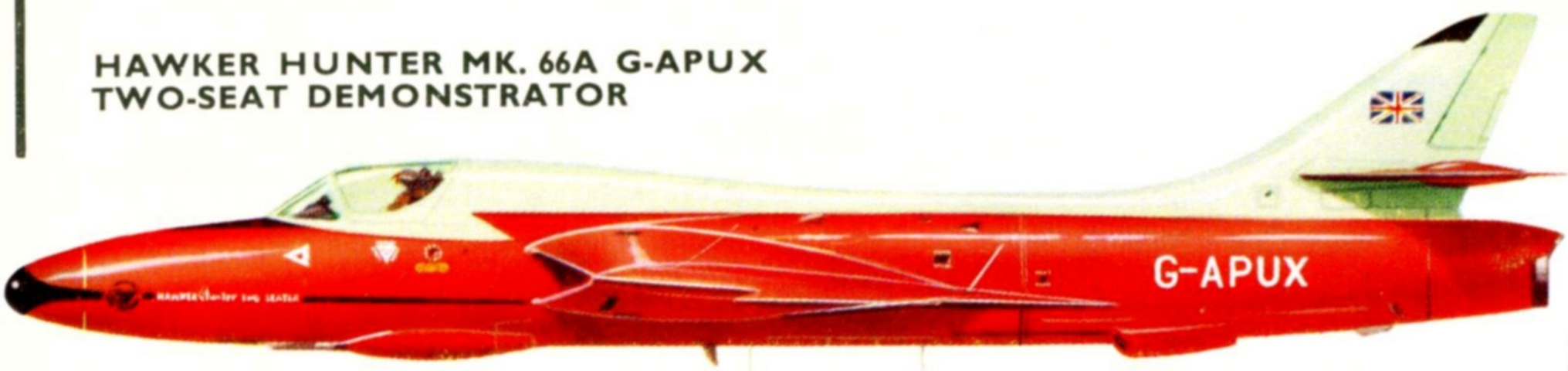


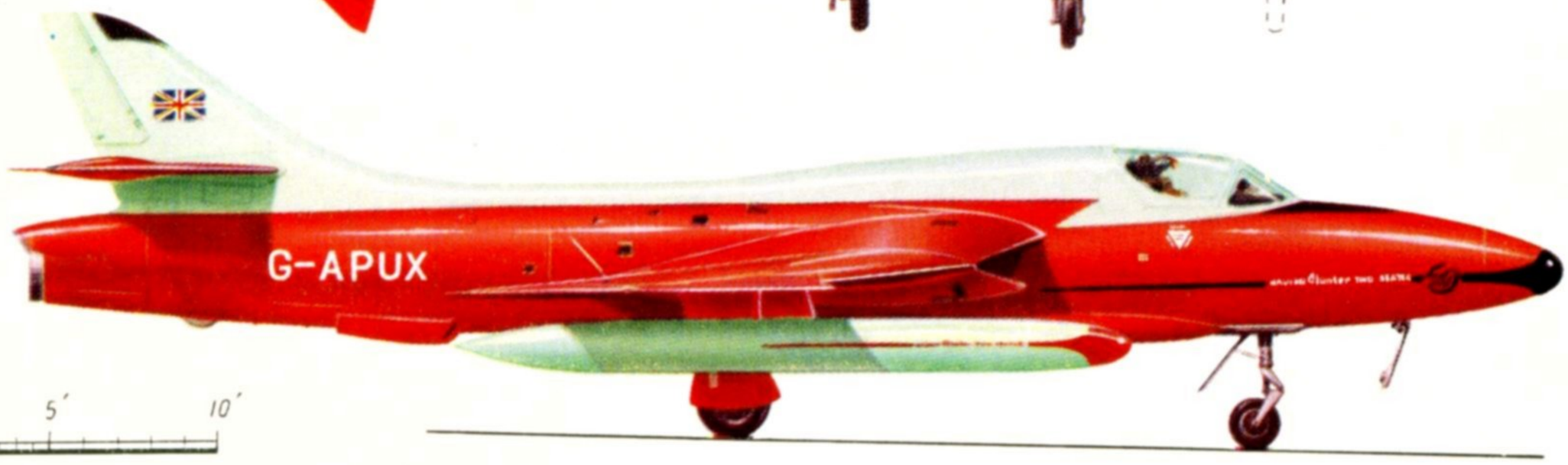
HAWKER HUNTER MK. 66A G-APUX
TWO-SEAT DEMONSTRATOR



Aircraft fuselage nose inscription.

Ferry tank inscription.

Aircraft, equipped with 350-gallon ferry tanks, as demonstrated by A. W. ("Bill") Bedford, O.B.E., at the 1960 S.B.A.C. Air Display, Farnborough.



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5' 10'

The Hawker Hunter Two-Seaters

by Francis K. Mason

Paired fly-past by Hunter T.Mk. 7s of No. 56 (Fighter) Squadron. Note the chequered wing tips and dorsal UHF blade aerials. Pending arrival of two-seat Lightnings, most Lightning fighter squadrons were established for two-seat Hunters.
(Photo: Stephen P. Peltz)

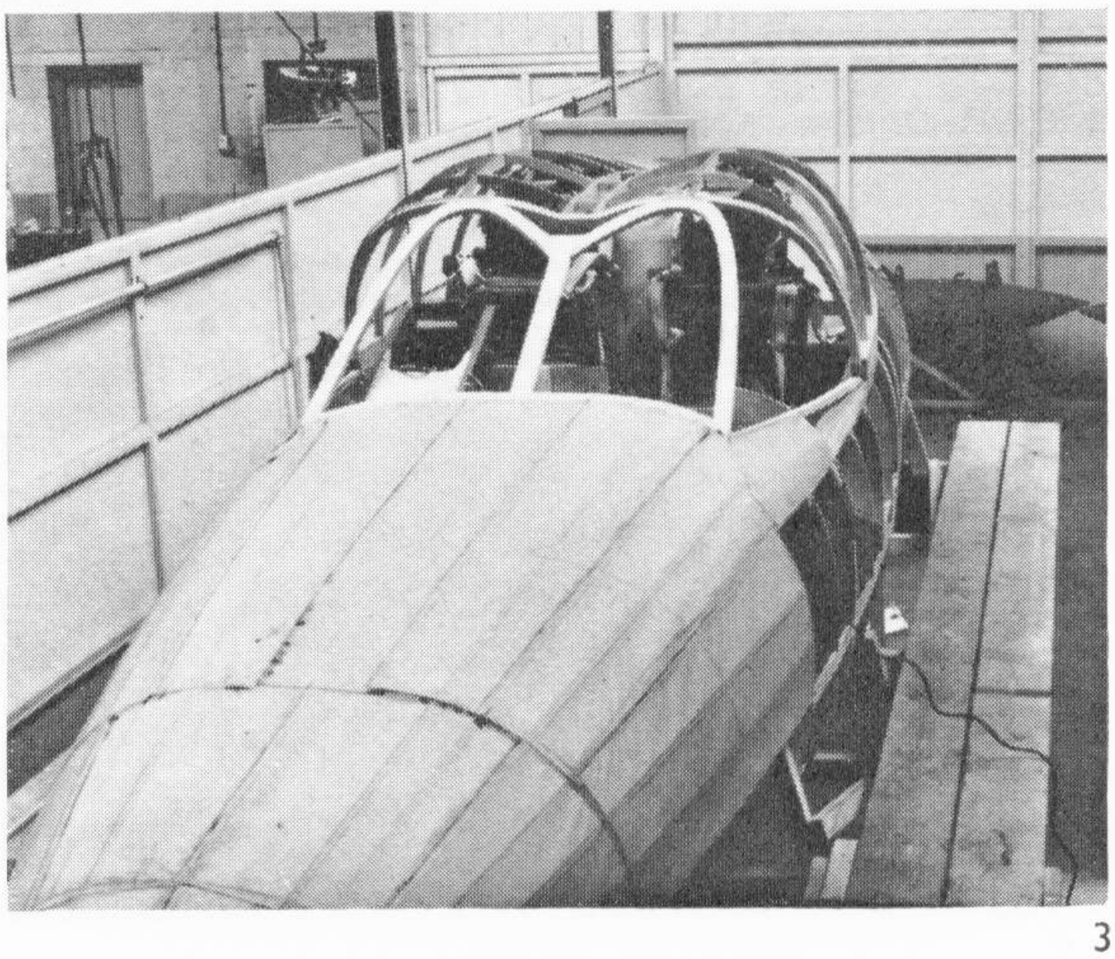
The Hawker Hunter two-seater was a triumph of reasoned argument over illogical prejudice. That it remained no more than a trainer was a result of the diminishing capacity for tactical foresight that became such a feature of British Staff planning during the mid-nineteen fifties. Not that blame attaches necessarily for this diminishing capacity, rather that the main preoccupation of the British Treasury was largely to administer funds for R.A.F. equipment only when the military trends, quite likely foreseen some years previously, had been confirmed by their occurrance. This perpetual faintheartedness, undoubtedly thrifty in outlook, placed the R.A.F. at no mean disadvantage at any one time but, more important by far, accumulated a disastrous and costly backlog of technical leeway to be made up in the long run.

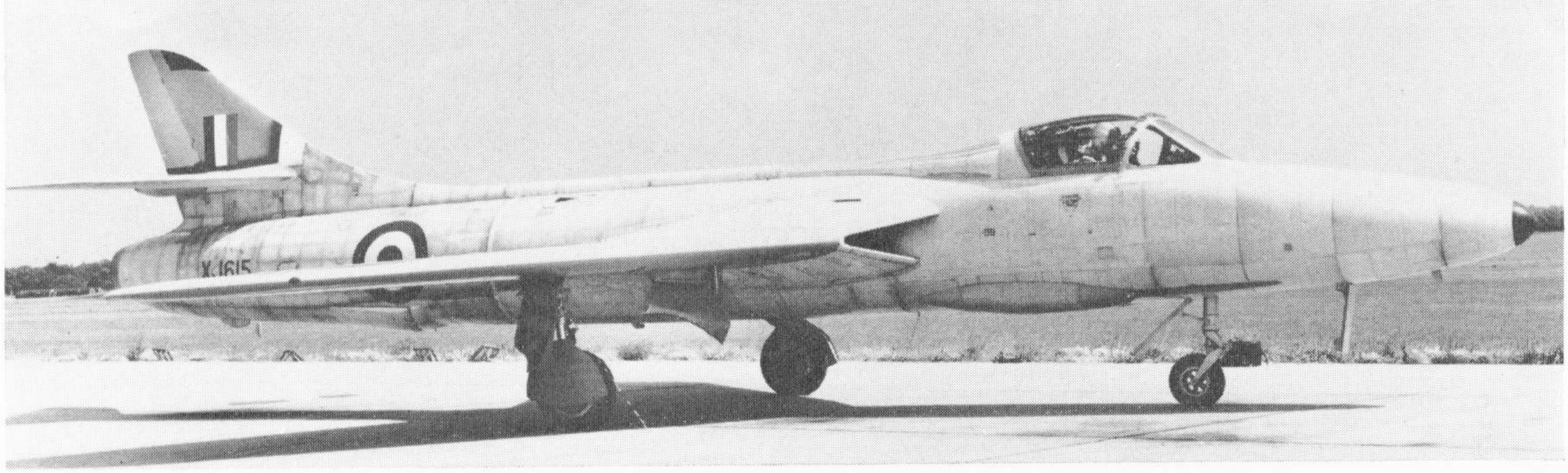
The Hunter fighter had been scheduled to become the R.A.F.'s standard day fighter since large orders had been placed in 1950, replacing the many subsonic Meteors and Vampires then in service. As has been design practice for many years, trainer derivatives had been developed from both fighters, Meteor and Vampire two-seaters equipping all day fighter Operational Conversion Units, Advanced Flying Schools, Instrument Flying and Weapon Training Schools. As originally proposed by Hawker in 1953 a two-seat version of the Hunter was intended to replace both designs. It transpired that the Meteor came to be supplanted by the Hunter in O.C.U.s, but that the Vampire T.11 survived at Advance Flying Schools until either the units were disbanded or the aircraft replaced by Jet Provosts.

The early two-seat project design efforts at Hawker were applied in two directions, the one concerned with the conventional tandem seating on the Meteor T.7, the other the side-by-side seating of the Vampire T.11. For some months arguments waxed strong in favour of the more logical "high speed shape" of the tandem arrangement; who could, after all, suggest that comparative speed performance with the sleek single-seater could be achieved using a swollen nose with instructor and pupil side-by-side ?

These arguments naturally came to involve the opinions of experienced instructors as well as those of the staffs of the Central Flying School and the Day Fighter Leaders' School at the Central Fighter Establishment. By mid-1953 these opinions had hardened in favour of side-by-side seating, principally on account of the ease of control demonstration, weapon sighting and instrument flying instruction. The result was the issue of Specification T.157D in 1954 to implement the private venture design proposals set out under the designation Hawker P.1101.

Original wooden mock-up of the two-seat configuration showing the "double-bubble" canopy.
(Photo: Hawker Siddeley Aviation, Neg. No. H2417)





Earliest known photo of the P.1101 two-seat prototype, XJ615, *in primer finish. Convergent/divergent vortex generators on the windscreen frame are evidence of the early hood fairing turbulence troubles. Note the absence of tail parachute.*
(Photo: Hawker, Neg. No. H3565)

FLIGHT TRIALS AND TRIBULATIONS

In all the design history of the Hawker Hunter only two aspects of airframe design resulted in prolonged flight problems. The first was the development of the two-seater hood fairing shape, the other—much later, in 1960—with aileron damage resulting from flow separation buffet when carrying outboard drop tanks at low altitude.

As originally mocked-up, the two-seater's hood shape featured a double bulge but for ease of manufacture this was "smoothed out" to provide a pair of large transparent panels set in a massive frame, the entire hood being hinged to open up and back, electrically. The armament was not specified at first, and Hawker decided to include two Aden guns, one each side of the lower part of the nose, semi-buried in blisters and firing through blast tubes either side of the nosewheel.

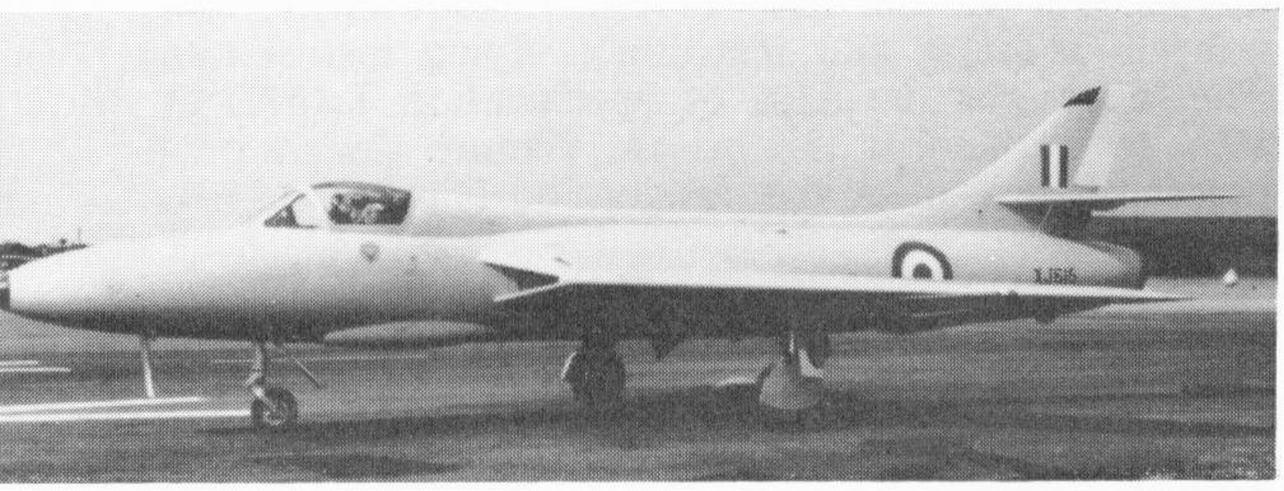
The first prototype P.1101, *XJ615*, powered by a 7,500 lb. thrust Rolls-Royce Avon R.A.21, flew on 8th July 1955, in part natural finish and part primer. Shortly afterwards it was coated in pale green for participation in the 1955 S.B.A.C. Display.

However, all was far from well with the flying characteristics, and at speeds over about Mach 0·84 airflow instability around the hood and hood fairing started to build up with such intensity that at about Mach 0·88 the aircraft commenced snaking and pitching to the accompaniment of a sharp increase in airflow noise.

At a quite early stage it was realised that the fuselage cross-section areas, taken at intervals aft of the windscreen frame, probably had a bearing upon the flow instability and initial trials were conducted using vortex generators distributed around the windscreen arch; these varied from time to time in number between 12 and 36 and were intended to activate the boundary layer in an attempt to delay airflow separation.

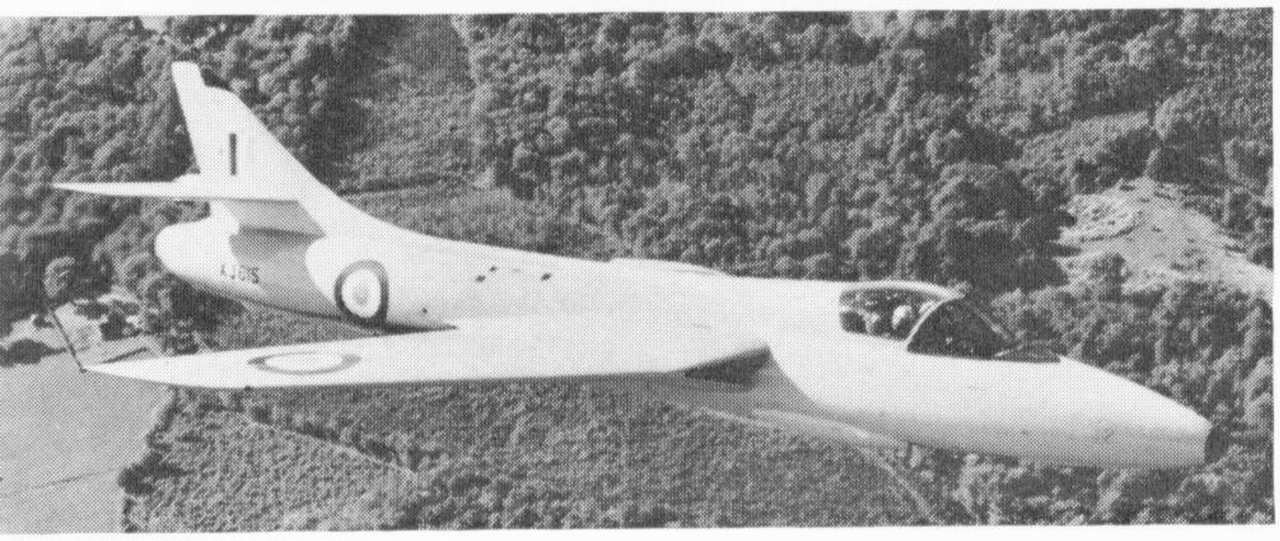
Also concerned in the trials were the alteration in shape of, and temporary removal of the gun blisters as means of varying the fuselage cross-section immediately forward of the wing.

Ultimately the fuselage fairing directly aft of the hood was enlarged, at first by degrees, and as results proved encouraging the entire fairing was re-lofted and contoured according to the "area rule" (in those days only an academic exercise in British aerodynamics). Something like twenty-four different hood configurations had been tried and flown by mid-1956, but it became obvious that the now-familiar humped-back fairing provided the remedy. It is interesting to record that the full Hawker lofting contours were

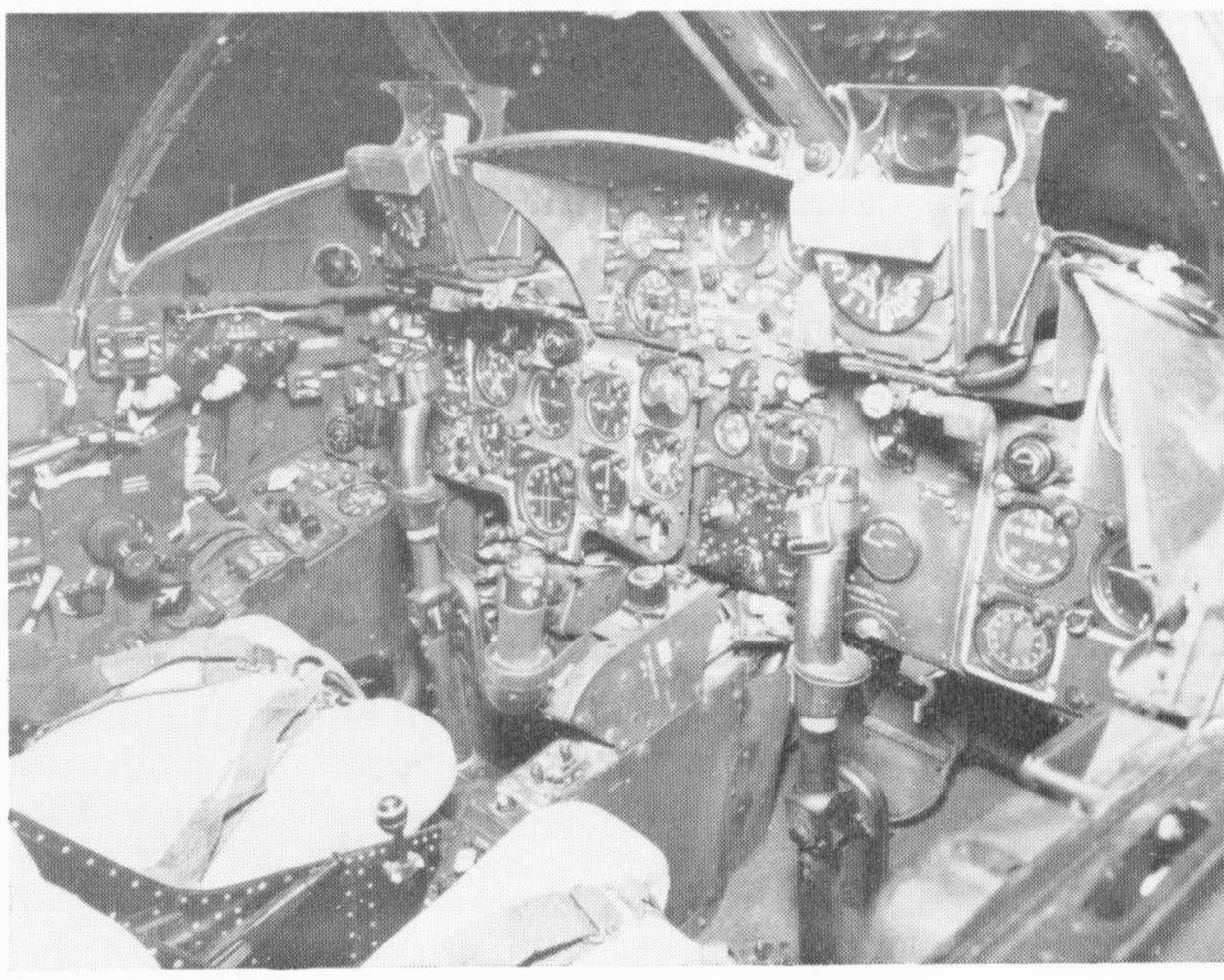


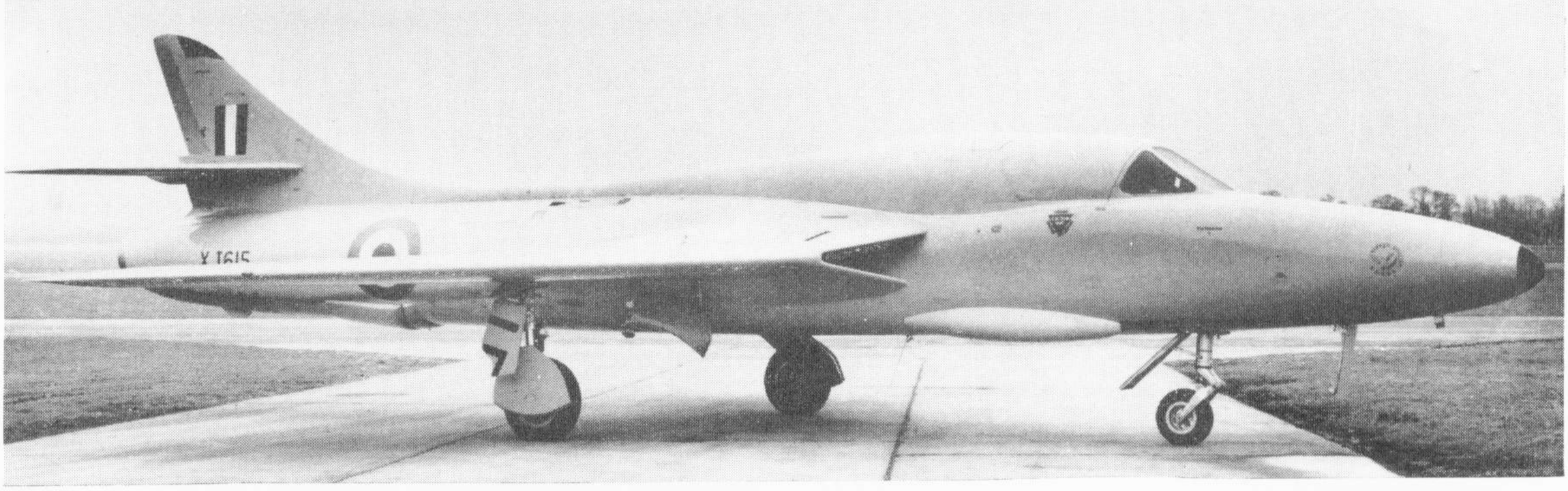
XJ615—*a wolf in sheep's clothing—painted for the 1955 S.B.A.C. Display. Note that the port gun is still fitted.*
(Photo: J. M. G. Gradidge)

Fine low-level photo of XJ615. *The dark panel forward of the windscreen indicates the limit of a temporary raked perspex shield intended to smooth the hood airflow.*
(Photo: Hawker, by Cyril Peckham, Neg. No. DH.9/55)

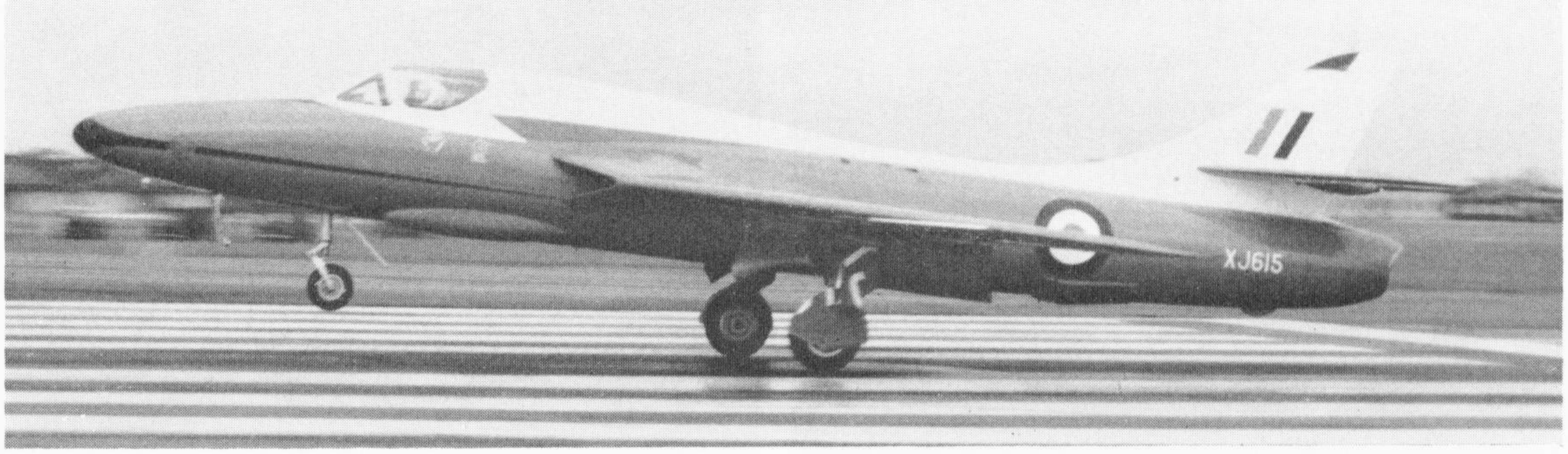


Hunter two-seat cockpit layout. Flying, engine, armament and sighting controls are fully duplicated, though the instructor's blind flying instrument panel is partly obscured in this photo (on starboard side). (Photo: Hawker, Neg. No. 87/59)





So numerous were progressive hood modifications becoming by February 1956 that metal hoods were used as cheaper expedients in the hood development tests on XJ615.
(Photo: Hawker, Neg. No. HTG.2/56)



Red, black and off-white colour scheme displayed by XJ615 *at the 1956 S.B.A.C. Display. Port gun still fitted and tail parachute added.*
(Photo: J. M. G. Gradidge)

forwarded to English Electric Co. Ltd., and a similar hood fairing appeared on the Lightning trainers a year or so later.

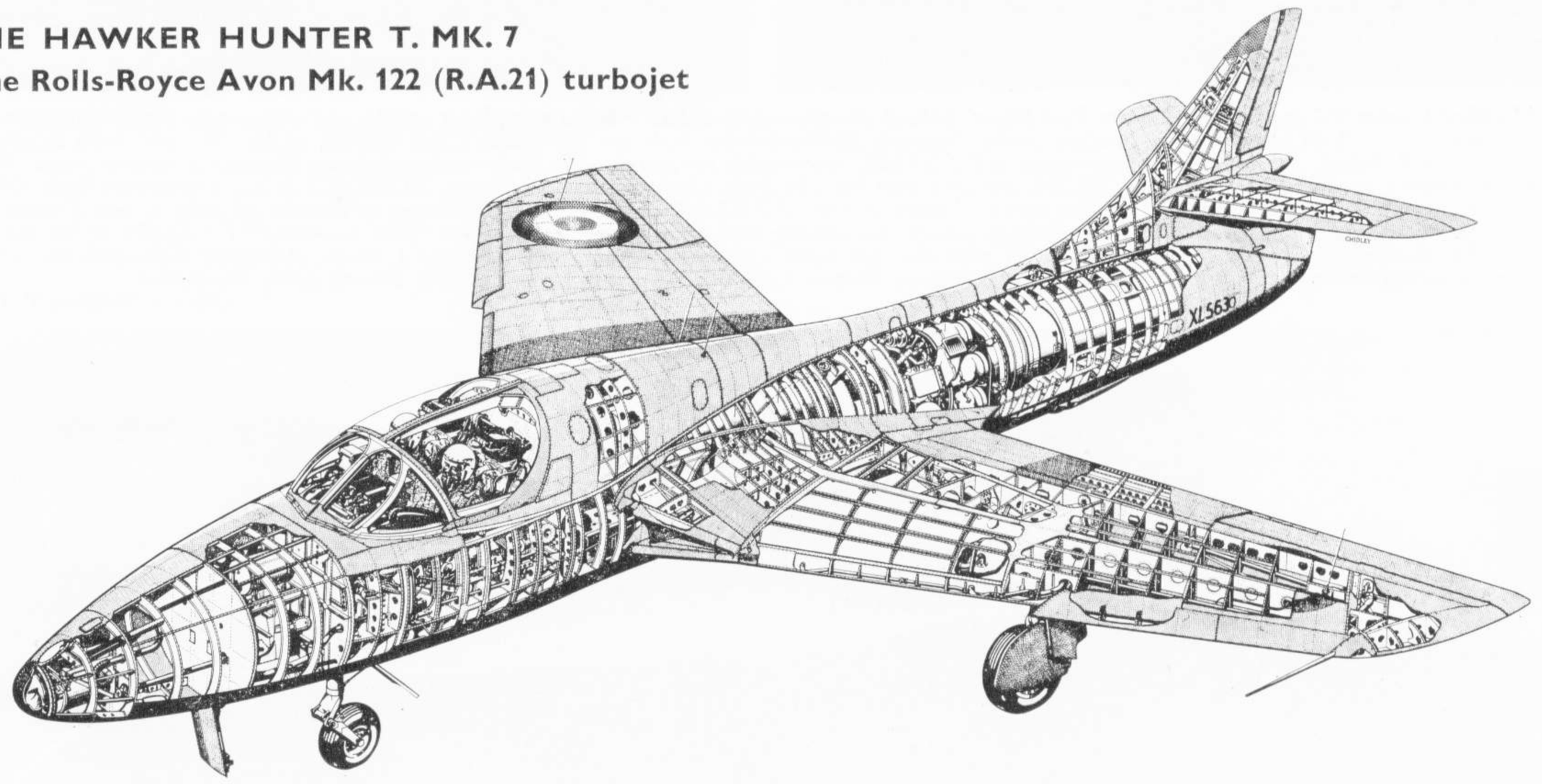
It was also in 1956 that the second P.1101, *XJ627*, was flown, this differing from the first prototype in being powered by the big 10,000 pound thrust Avon 203 (R.A.28 rating). Considered more realistic for R.A.F. service (in view of the similarly-powered Hunter 6s then beginning to replace the R.A.21-powered Hunter 4s), many people expected this version to win large orders, especially at home. This was not to be, and principal interest continued to centre upon *XJ615*.

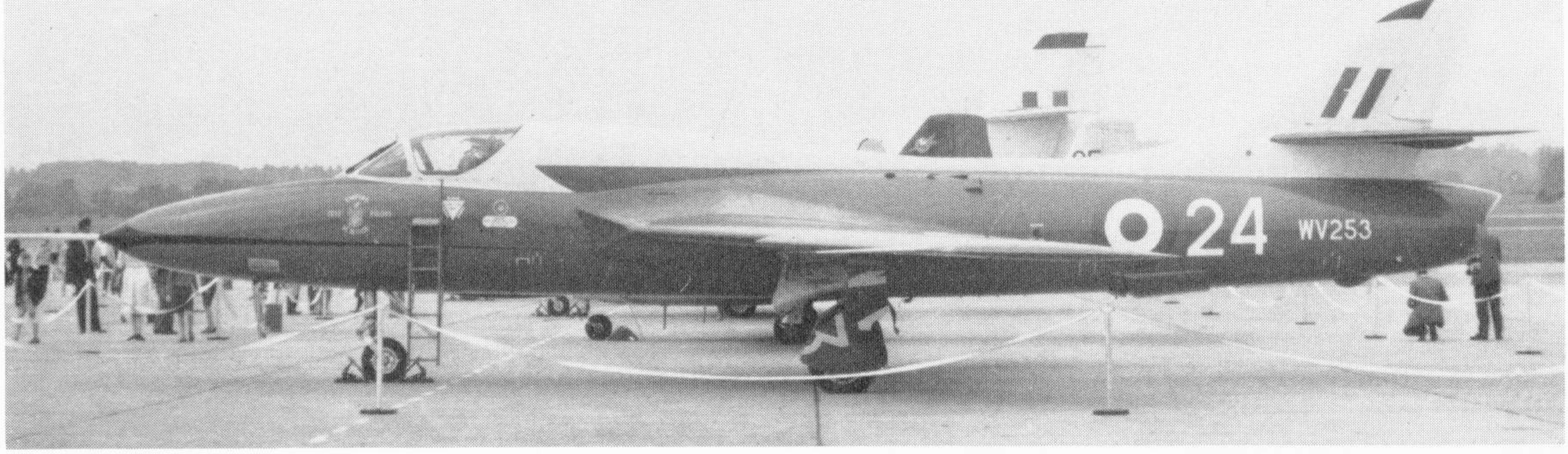
OPERATIONAL TRAINING

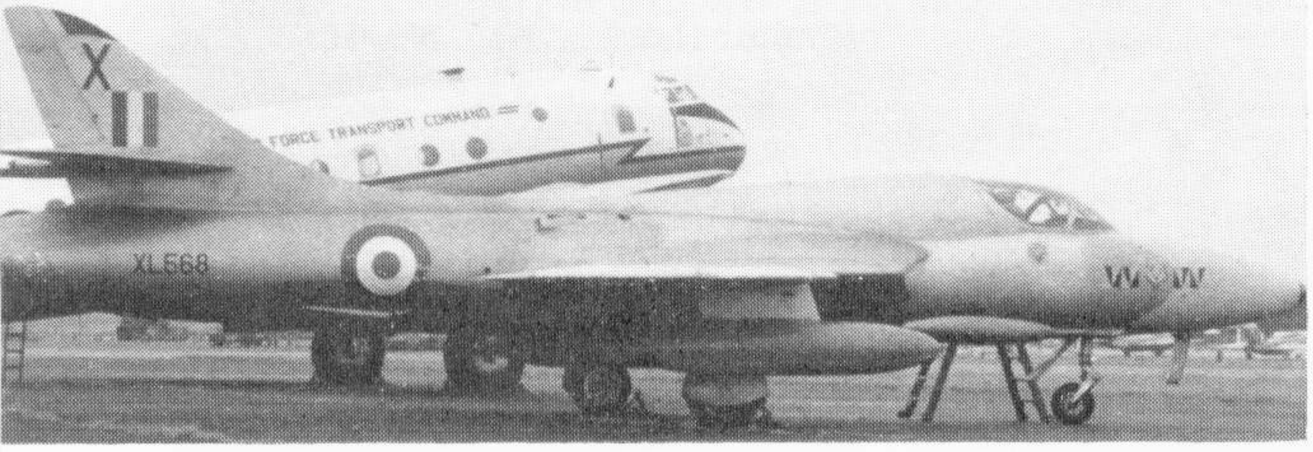
One further feature remained to be included in the Hunter trainer—the braking parachute in the tail. A dummy installation had been tried out in Hunter 4 *WT780* (Hawker's "hack"), and a functional version was installed in *XJ615* during 1956.

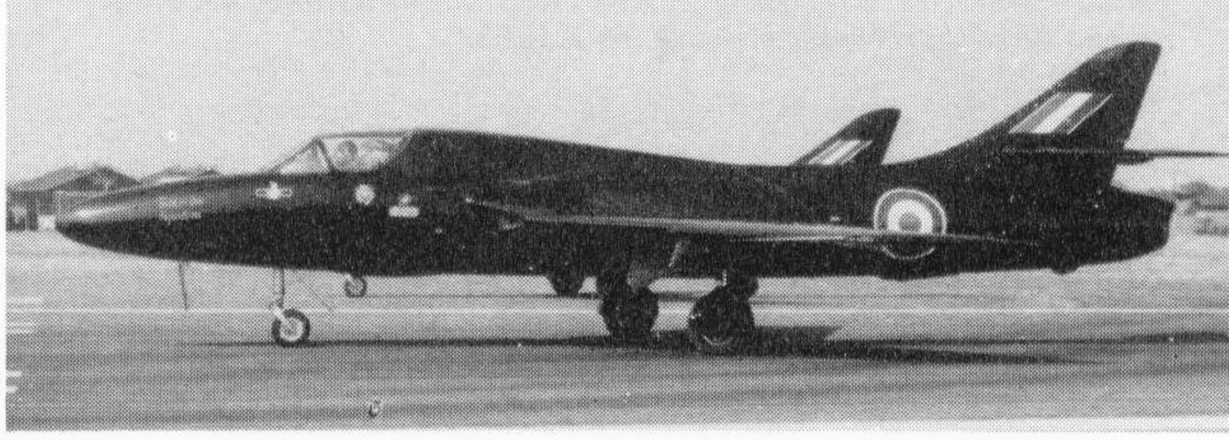
Production of the Hunter T. Mk. 7—as the proposed R.A.F. trainer was designated—was intended to be undertaken by Hawker (Blackpool) Ltd., at the lease-held factory at South Shore, Blackpool, and the contract for 55 aircraft was so placed. However the severe cutbacks in defence expenditure hit Hunter

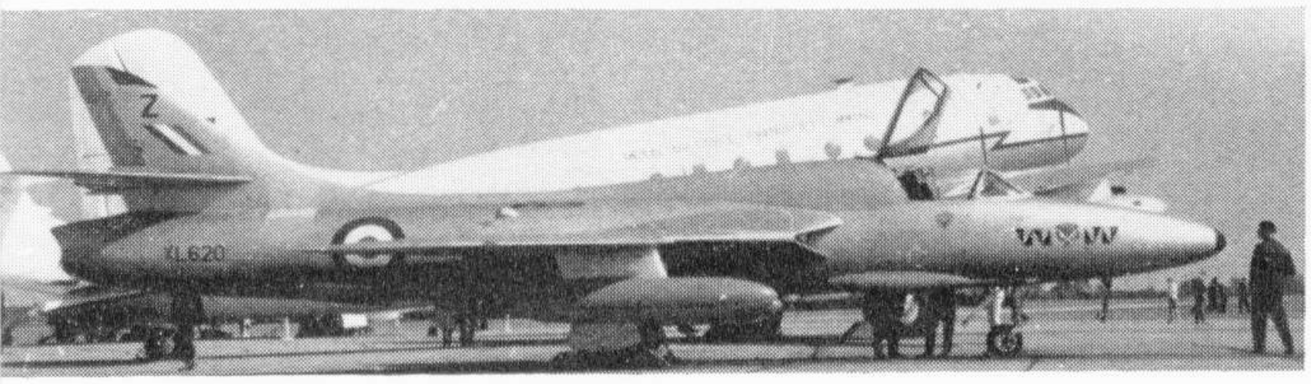
THE HAWKER HUNTER T. MK. 7
One Rolls-Royce Avon Mk. 122 (R.A.21) turbojet

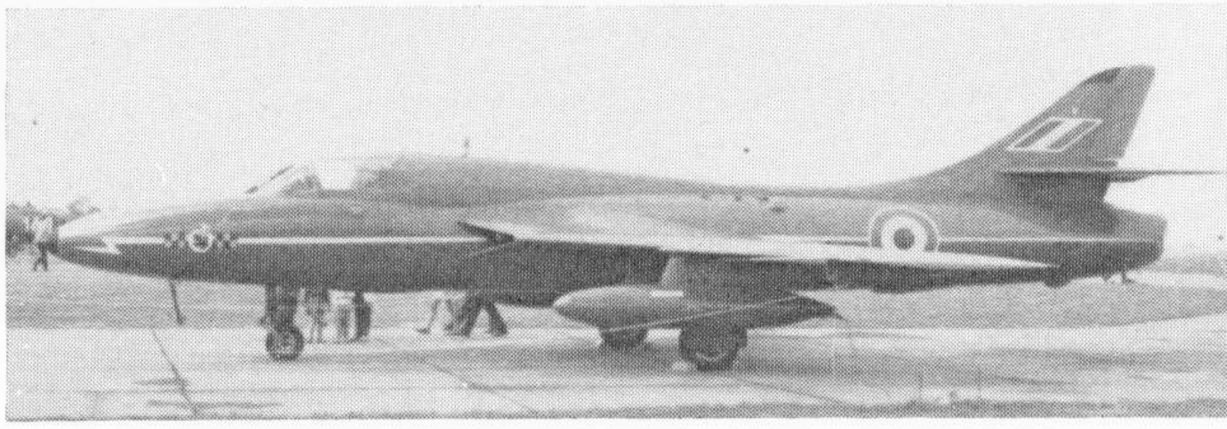


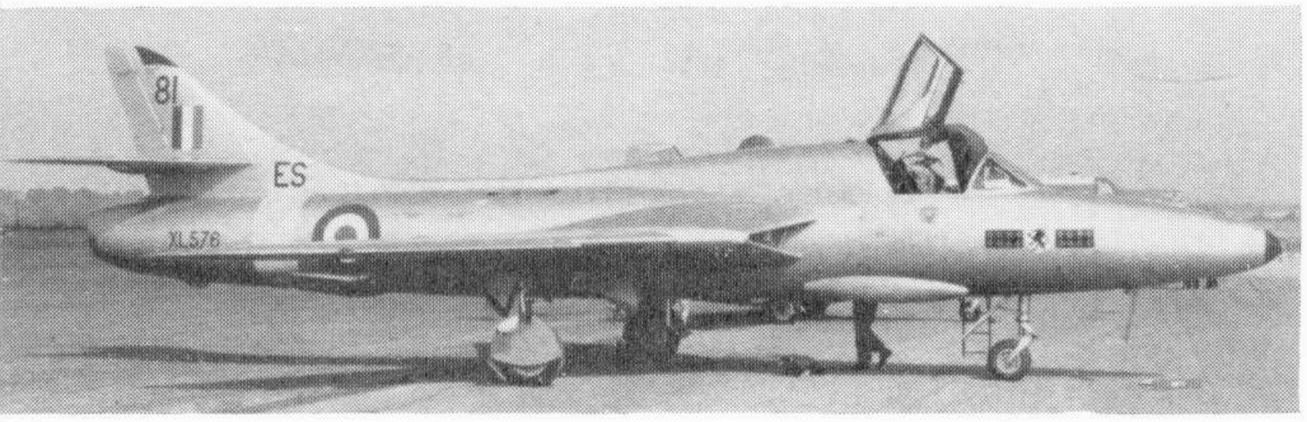


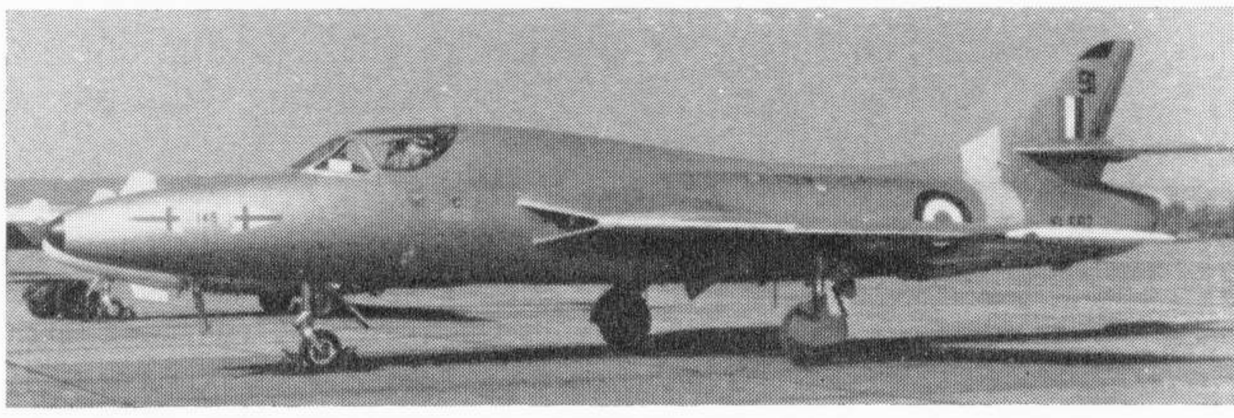


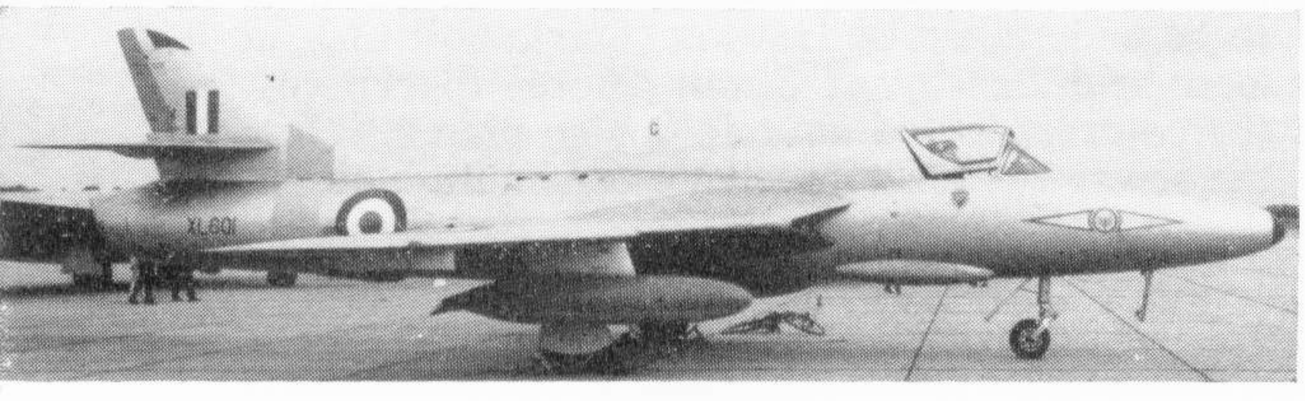


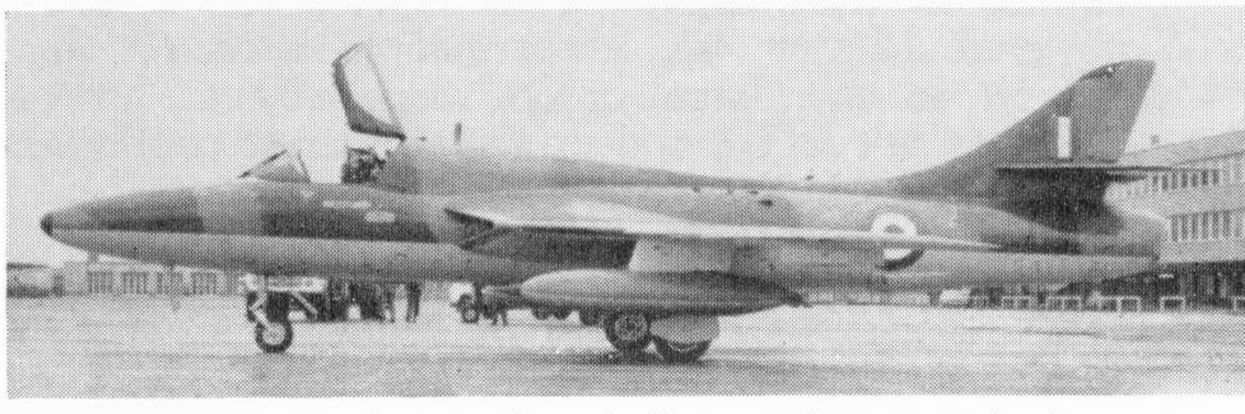




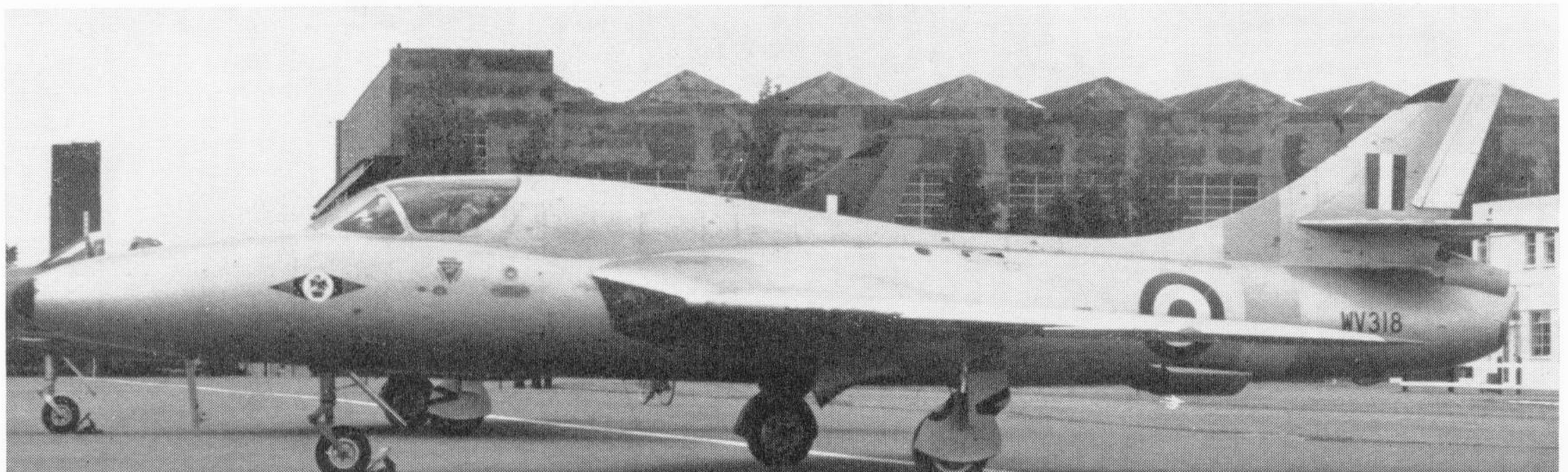


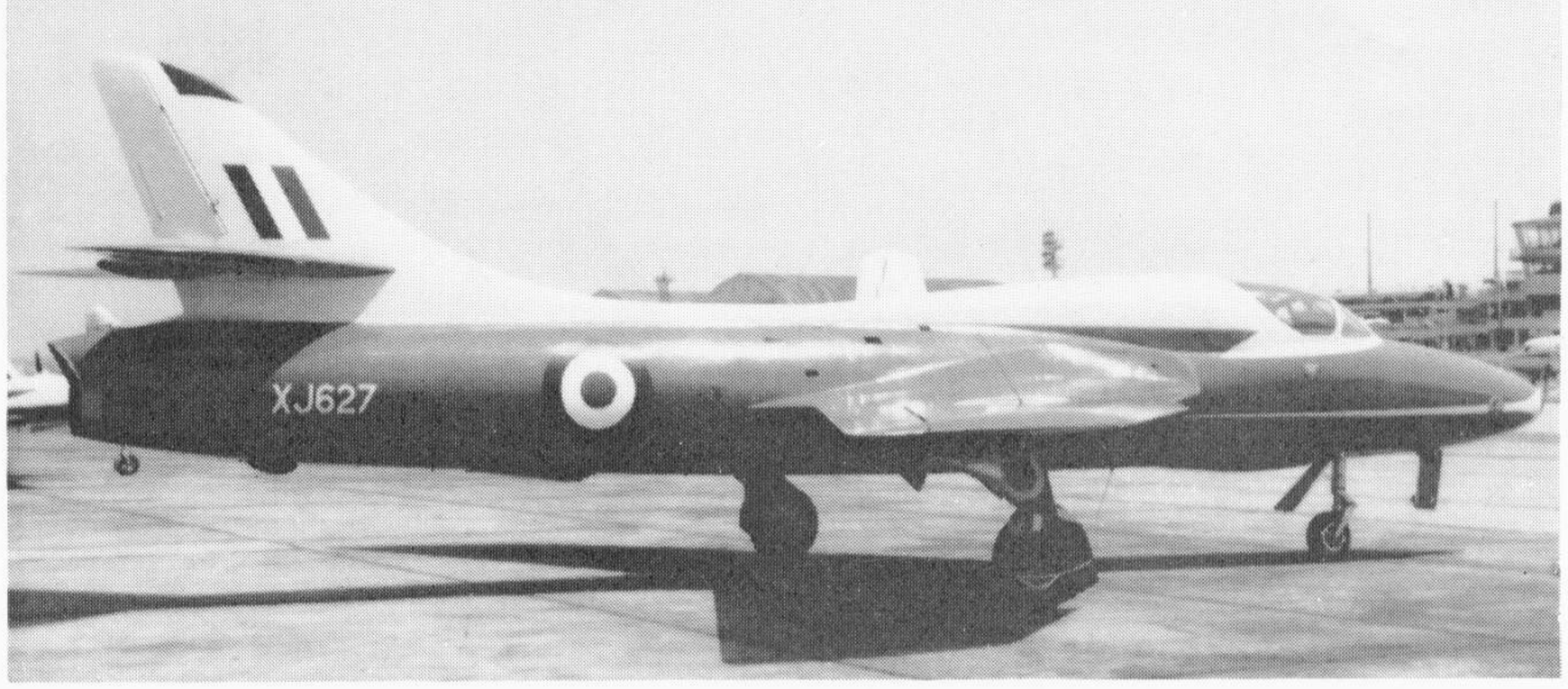


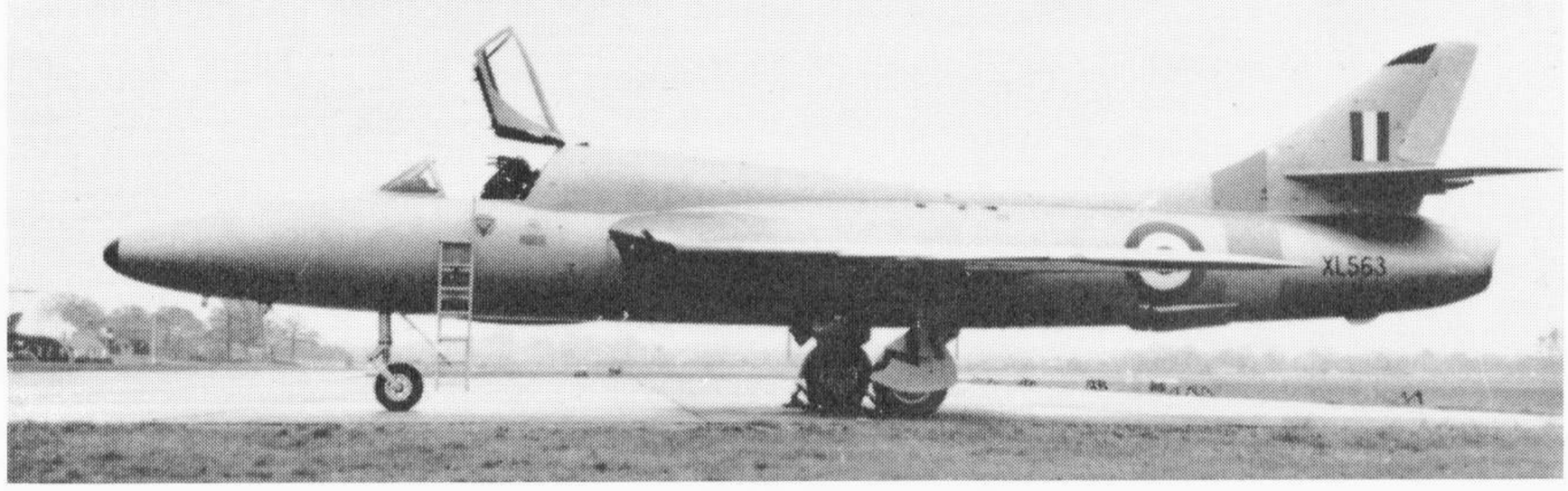




Top: *Modified Hunter T.7 used by the Empire Test Pilots' School, Farnborough; colour scheme was glossy scarlet and white; nose instrumentation boom was "optional extra".* Left hand photos, reading down: *Scarcely distinguishable from the T.7 is this T.7A,* XL568, *of No. 74 Sqdn., with dayglo nose* (Photo: Stephen P. Peltz); *74 Sqdn's other two-seater, a T.7* XL620, *was notable for its raked fin flash—unusual among Hunters in natural finish* (Photo: R. C. B. Ashworth); *another 229 O.C.U. T.7,* XL576, *this time with No. 234 Sqdn. (Reserve) nose markings;* XL601, *T.7 of No. 1 (Fighter) Sqdn.* (Photo: J. M. G. Gradidge). Right hand photos, reading down: "*Black Arrow*" *T.7* XL610 *of No. 111 Sqdn. running up to take off prior to one of many Farnborough formation displays* (Photo: J. M. G. Gradidge); *glossy blue scheme with white cheat line identifies "Blue Diamond" T.7* XL571 *of No. 93 Sqdn.* (Photo: J. M. G. Gradidge); *229 O.C.U. T.7* XL587 *with No. 145 Sqdn. (Reserve) nose insignia* (Photo: J. D. R. Rawlins); *Gutersloh Stn. Flt. T.7* XL621 *in camouflage scheme* (Photo: Stephen P. Peltz). Below: *Hunter T.7A* WV318 *of the Central Flying School, Little Rissington.*
(Photo: Stephen P. Peltz).







Right: *Smart blue and white colours on the second P.1101 prototype*, XJ627, *seen here at the 1957 Paris Aero Show.* (Photo: J. M. G. Gradidge)
Below right: *First production Hunter T.7*, XL563, *at Dunsfold.* (Photo: F. K. Mason collection)

6 production to such an extent that adequate production space existed for Hunter 7s at Kingston. (Blackpool was still used by Hawker for several more years for Sea Fury refurbishing, but was released in about 1961).

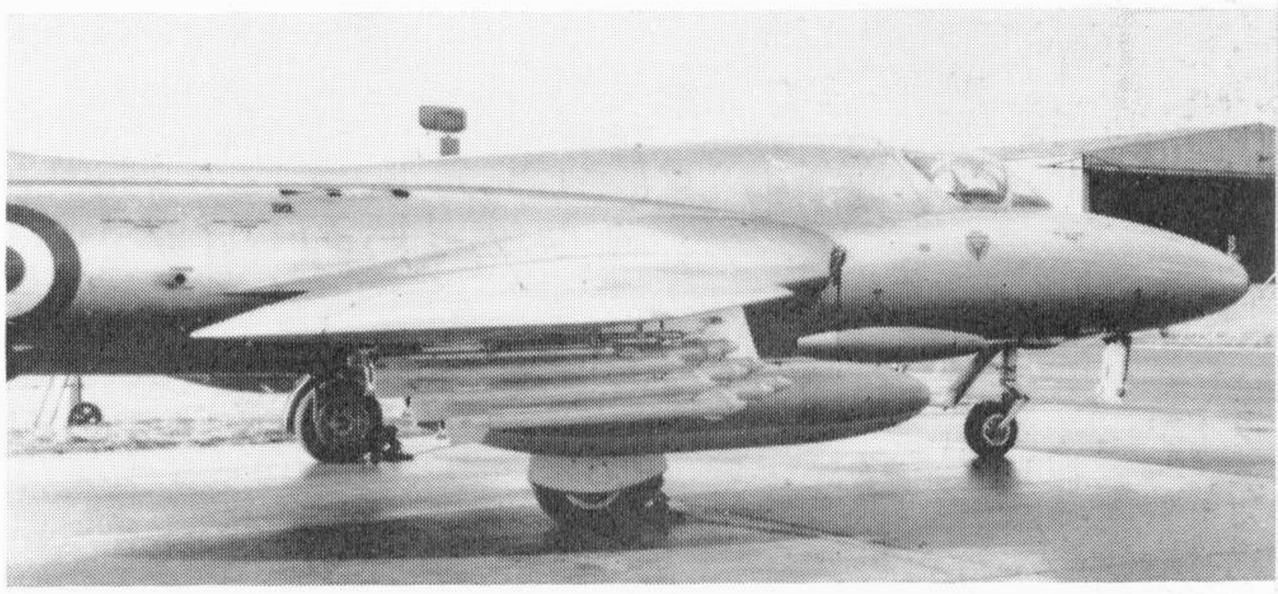
Of the 55 aircraft ordered, 45 were completed as R.A.F. Mark 7s, and the remainder as naval T. Mk. 8s — of which more anon. It was intended that the 45 Mark 7s would suffice to equip No. 229 Operational Conversion Unit at Chivenor, as well as providing a single aircraft for instrument training and checkout on each Hunter squadron (in 1958 there were twelve). Further deliveries to Station Flights placed something of a drain upon the slender reserves at maintenance units.

Hunter 7s entered service at Chivenor in 1958 and at once confirmed the popularity of the side-by-side seating arrangement. However it was not long before the first casualty on the type occurred—the result of an inverted spin. The flight programme that followed to investigate this flight condition was one of the most thorough ever undertaken in Britain—and not one of the most appealing, having regard to the precedent. A. W. (Bill) Bedford was the principal pilot in this programme, and such was his supreme confidence in the control response required for inverted spin recovery that his twelve-turn spins in the red Hunter trainers at the 1959 and 1960 S.B.A.C. displays will long be remembered for their spectacle.

Incidentally, ejection from the two-seat Hunter was by means of a pair of Martin-Baker fully-automatic seats. Owing to the proximity of the two occupants, it was felt that should only one crew member choose to abandon the aircraft, the ejecting action might seriously impair the remaining pilot's ability to retain control, and as the problem would also exist on the Lightning trainer, Martin-Baker tests on the ejection configuration were carried out using a screen between the two crew members (*XJ627* was leased to Martin-Baker for use in these trials).

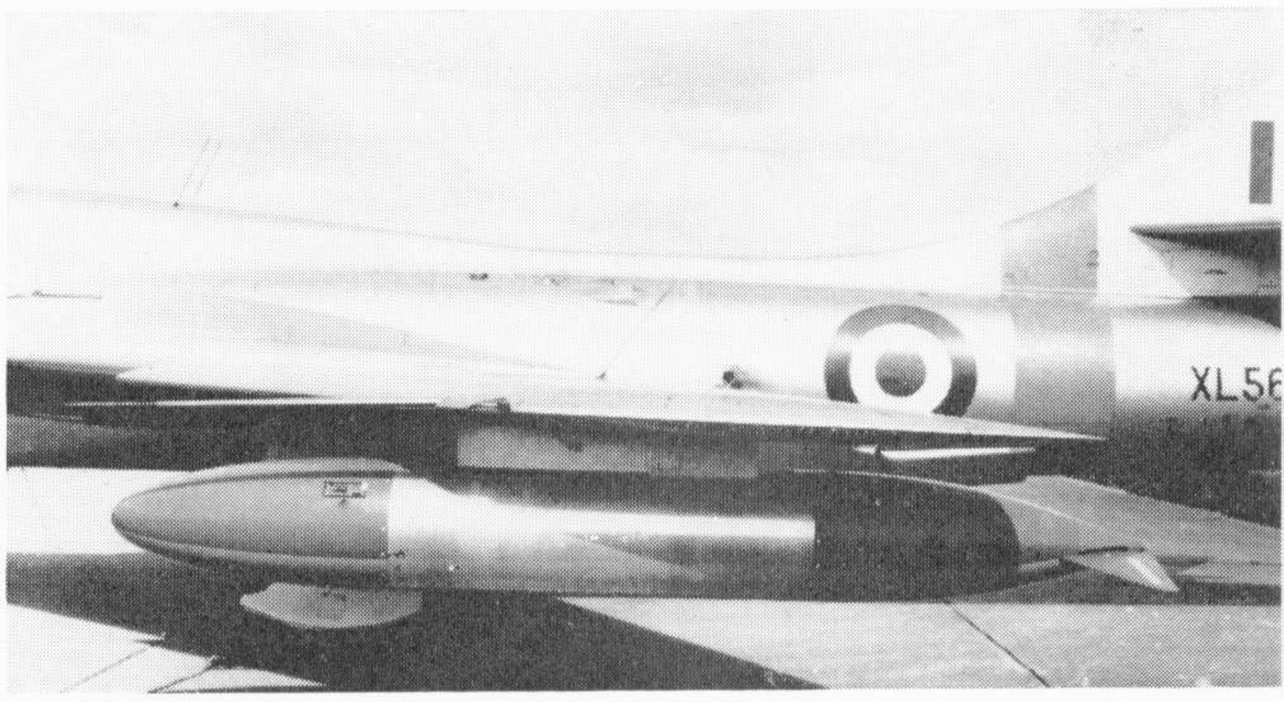
One of the principal attractions of the Hunter two-seater (at least as far as the British Treasury was concerned, if no one else) was the ability to convert it from the Hunter 4 single-seater, the nose sections being interchangeable forward of the front transport joint; local modifications were necessary to control joints, gun wiring and local structure to accommodate the enlarged hood fairing.

Whether or not the 45 new Hunter 7s proved adequate to equip R.A.F. units according to plan, it was nonetheless decided to convert six Mark 4s to two-seater standard. Five were thus modified by Sir W. G. Armstrong Whitworth Aircraft Ltd. at Coventry, and the sixth, *XF310*, by Hawker at Kingston. The latter aircraft required extensive re-working as it had previously been used as an experimental firing vehicle for the Fairey Fireflash beam-riding air-to-air missiles; but when these six



XL563 *carrying 100-gallon drop tanks and 24 three-inch R.P.s during autostabiliser trials, December 1958.* (Photo: F. K. Mason collection)

Outboard wing tank airflow separation problems led to experiments with lengthened drop tanks. XL566 *is seen carrying 150-gallon mock-up tanks.* (Photo: F. K. Mason collection)



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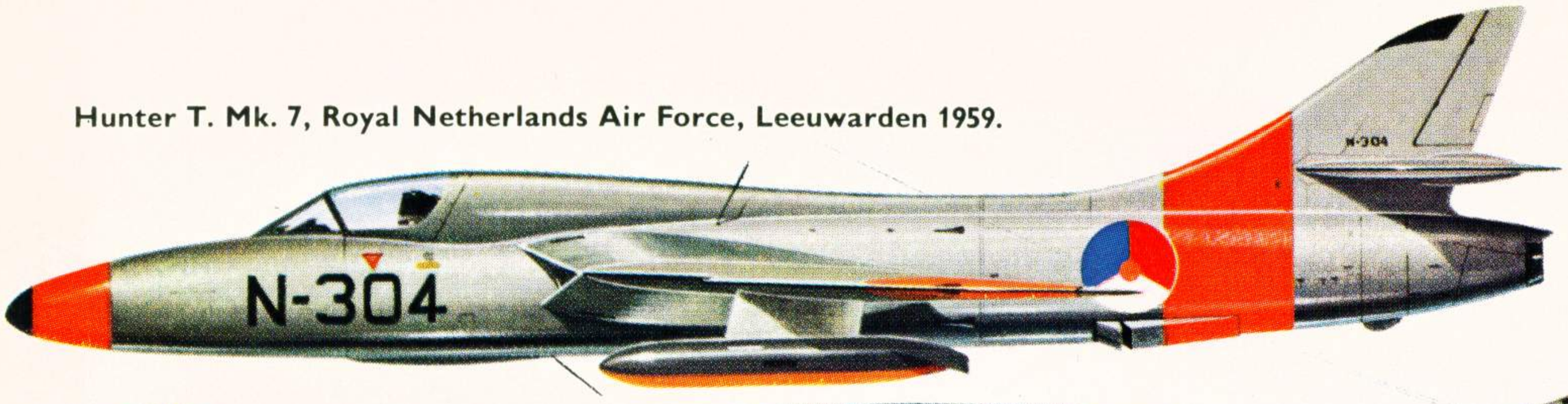
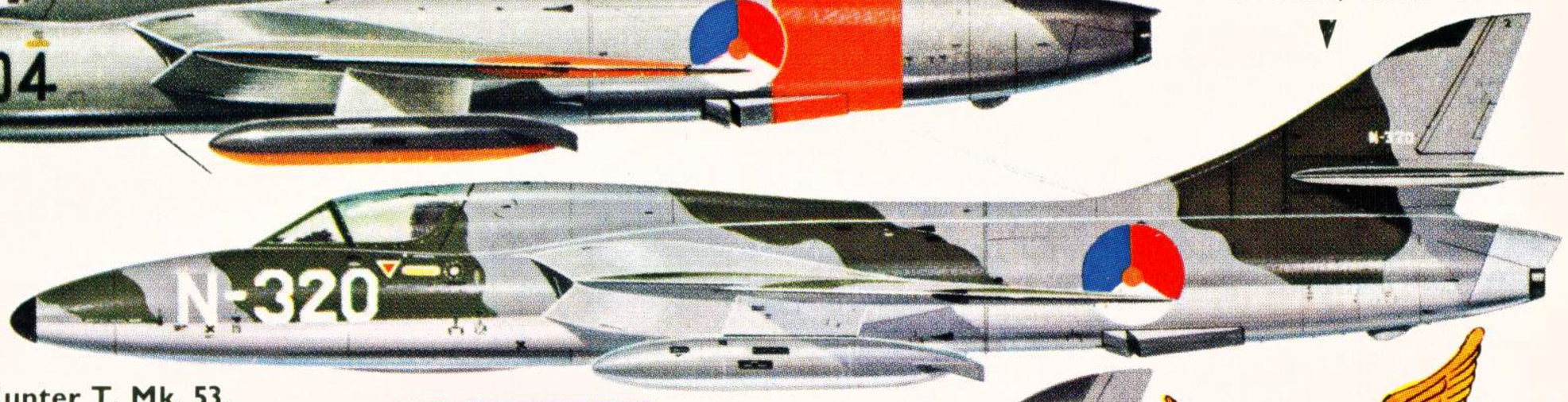
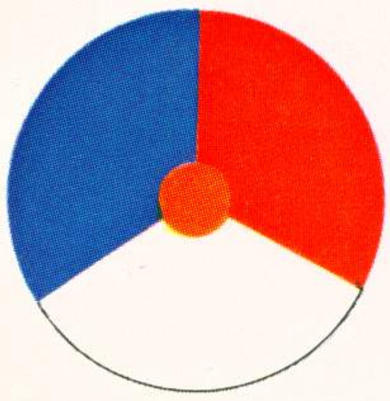
Hunter T. Mk. 7, Royal Netherlands Air Force, Leeuwarden 1959.



Hunter T. Mk. 7, R.Neth.A.F., Special Missions aircraft, 1961.



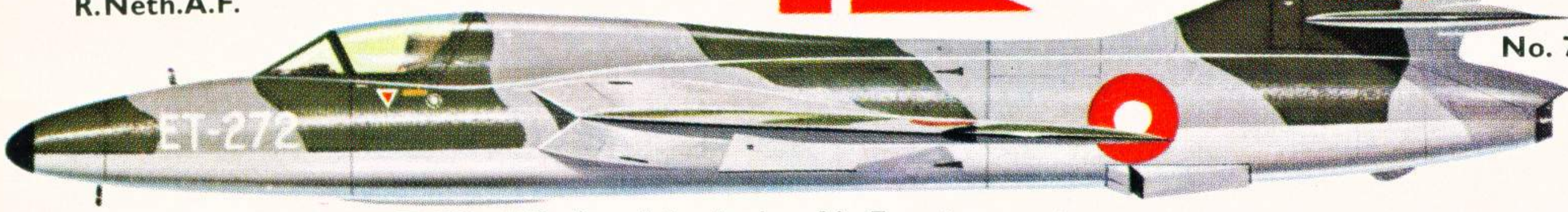


R.Neth.A.F.

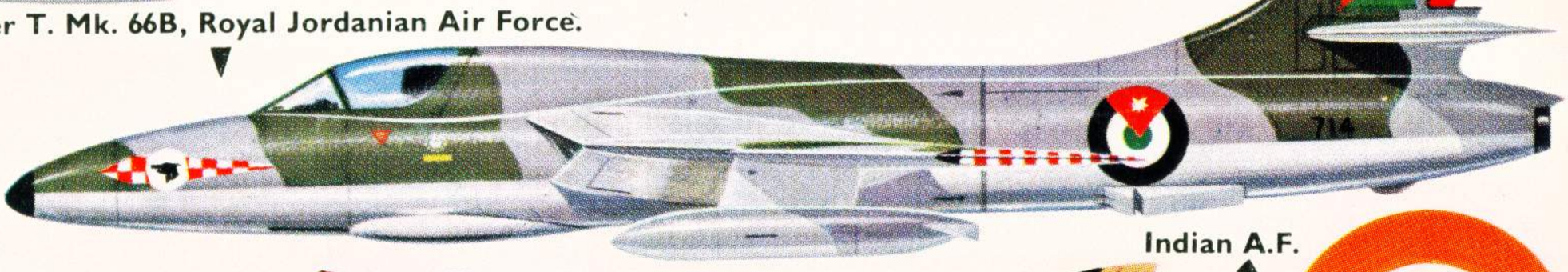
Hunter T. Mk. 53, Royal Danish Air Force, No. 724 Sqdn., 1963.

R.Dan.A.F.

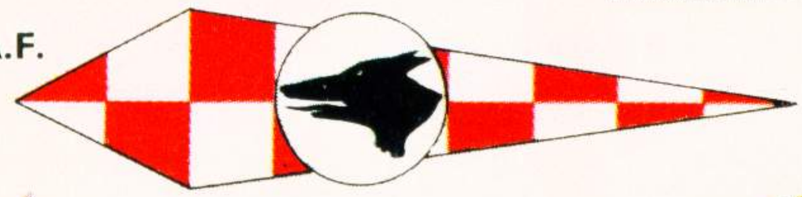
No. 724 Sqdn., R.Dan.A.F.



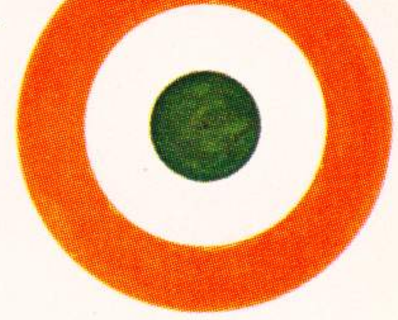
Hunter T. Mk. 66B, Royal Jordanian Air Force.



R. Jordanian A.F.



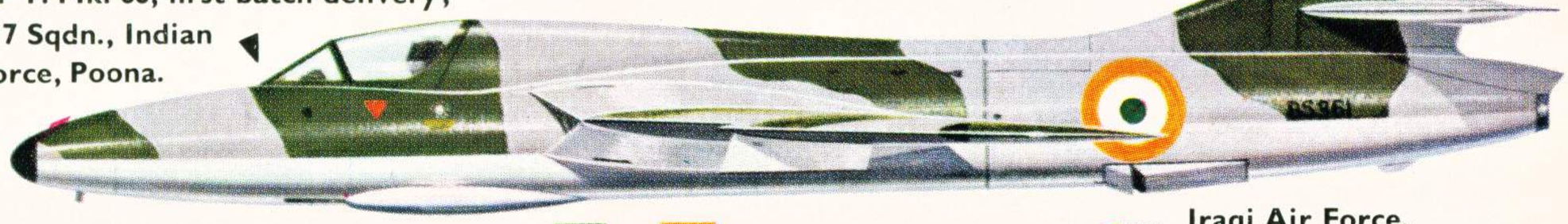
Indian A.F.



Hunter T. Mk. 7, Royal Saudi Air Force.

R. Saudi A.F.

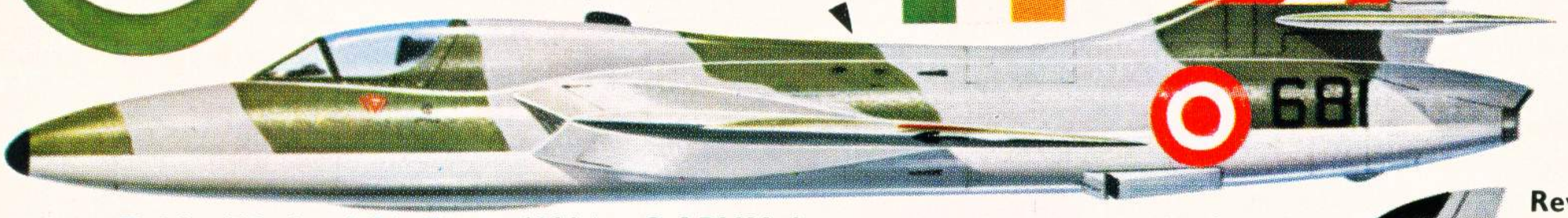
Hunter T. Mk. 66, first batch delivery; No. 17 Sqdn., Indian Air Force, Poona.



Indian A.F., fin flash.

Iraqi Air Force.

Hunter T. Mk. 62, Peruvian Air Force, Escuadron Caza 14, Limatambo, 1957.

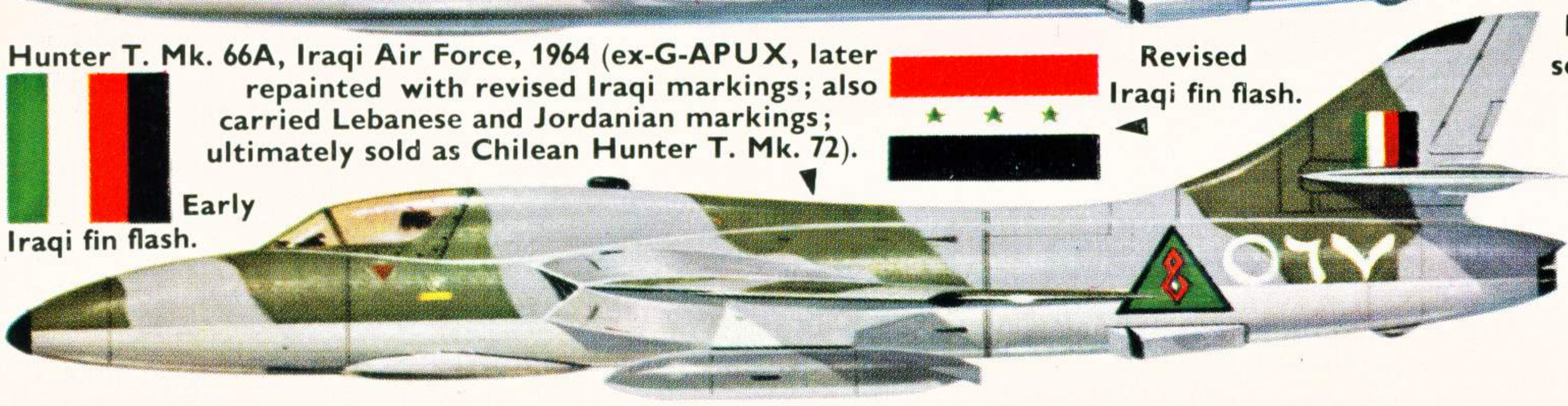


Hunter T. Mk. 66A, Iraqi Air Force, 1964 (ex-G-APUX, later repainted with revised Iraqi markings; also carried Lebanese and Jordanian markings; ultimately sold as Chilean Hunter T. Mk. 72).

Early Iraqi fin flash.

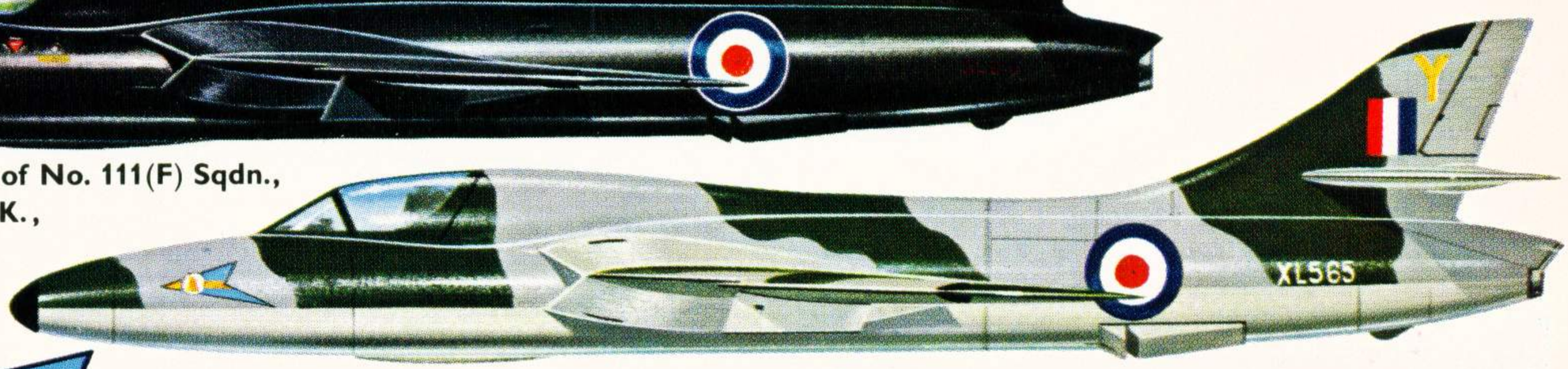
Revised Iraqi fin flash.

Revised Iraqi serial style.

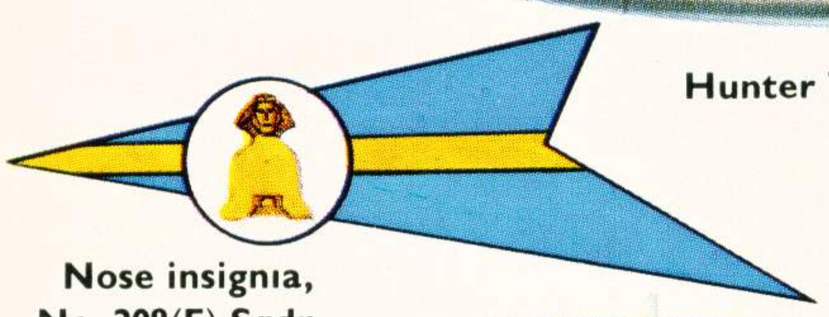


Reserve Sqdn. insignia, No. 234 Sqdn., carried on nose of No. 229 O.C.U. Hunter 7s.

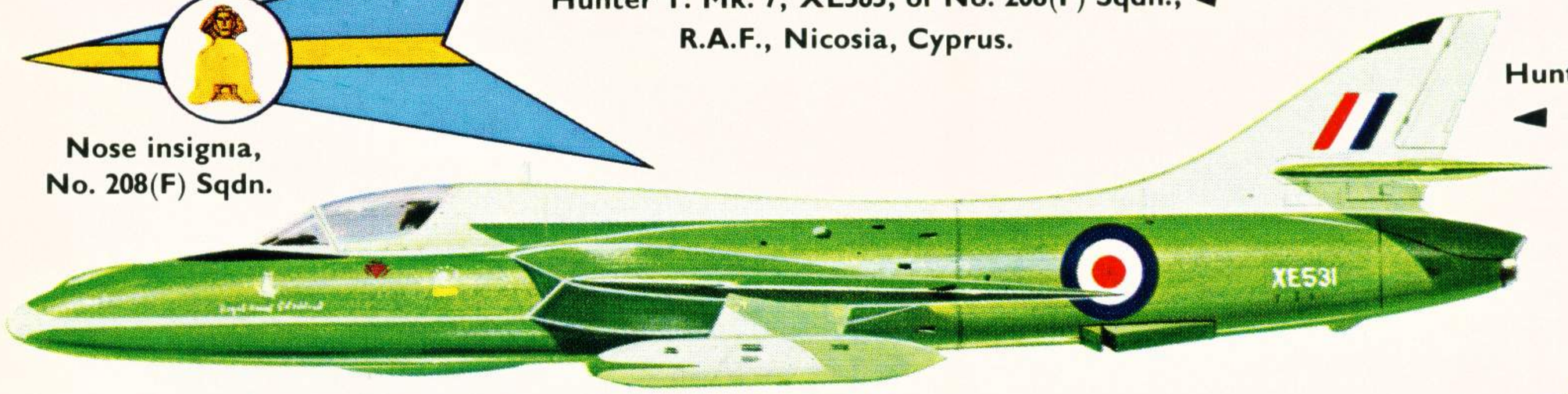
Hunter T. Mk. 7, XL610, of No. 111(F) Sqdn., R.A.F. North Weald, U.K., "The Black Arrows".



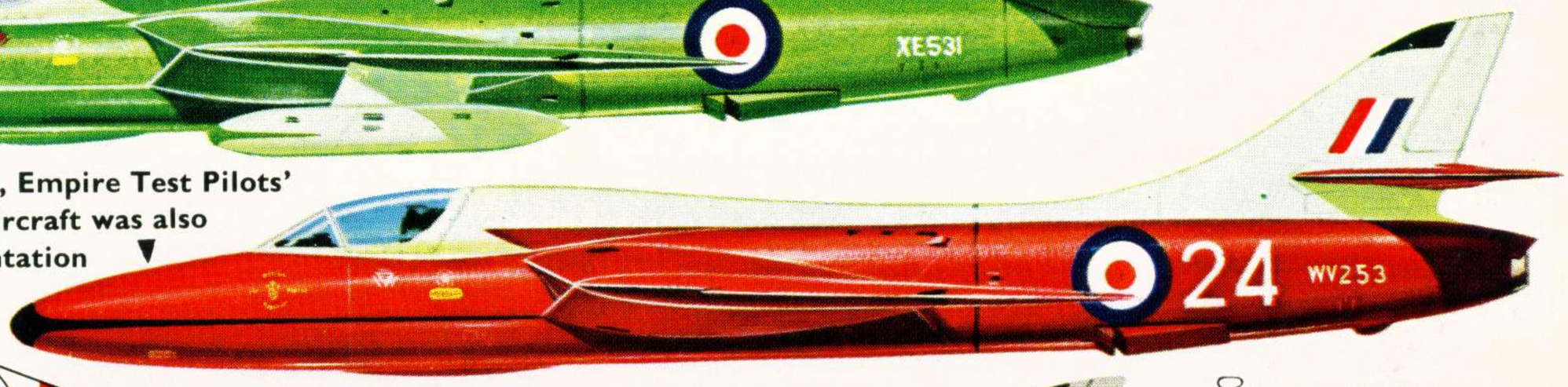
Hunter T. Mk. 7, XL565, of No. 208(F) Sqdn., R.A.F., Nicosia, Cyprus.



Nose insignia, No. 208(F) Sqdn.



Hunter Mk. 12, XE531, Royal Aircraft Establishment, Farnborough and Bedford, U.K.



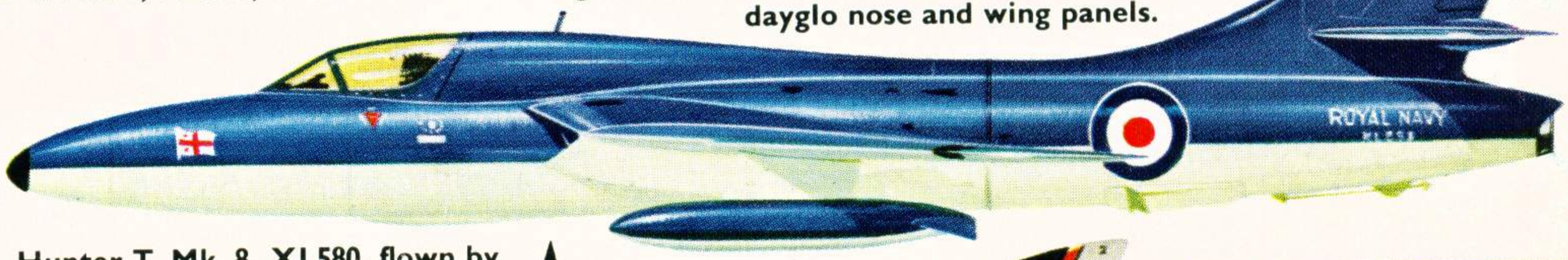
Hunter T. Mk. 7, WV253, Empire Test Pilots' School, Farnborough. Aircraft was also equipped with instrumentation nose boom.

Reserve Sqdn. insignia, No. 145 Sqdn., carried on nose of No. 229 O.C.U. Hunter 7s.

Flag Officer Flying Training, F.A.A.

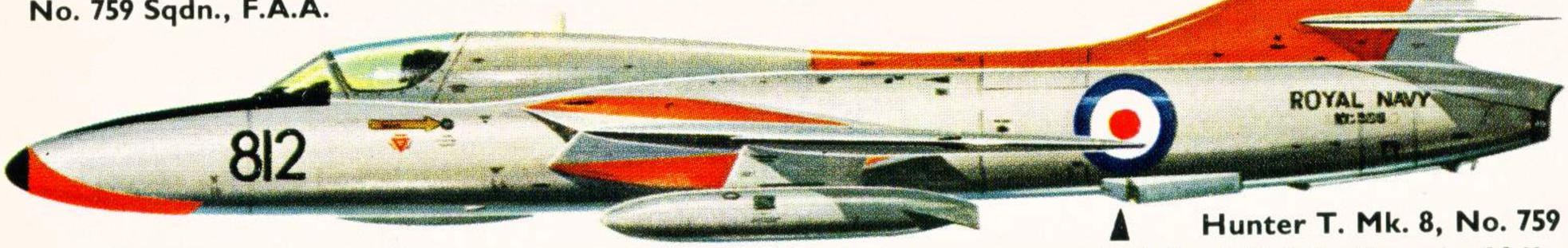
Hunter T. Mk. 7, XL621, Gutersloh Station Flight, 2nd T.A.F., Germany; dayglo nose and wing panels.

Fin insignia, No. 759 Sqdn., F.A.A.



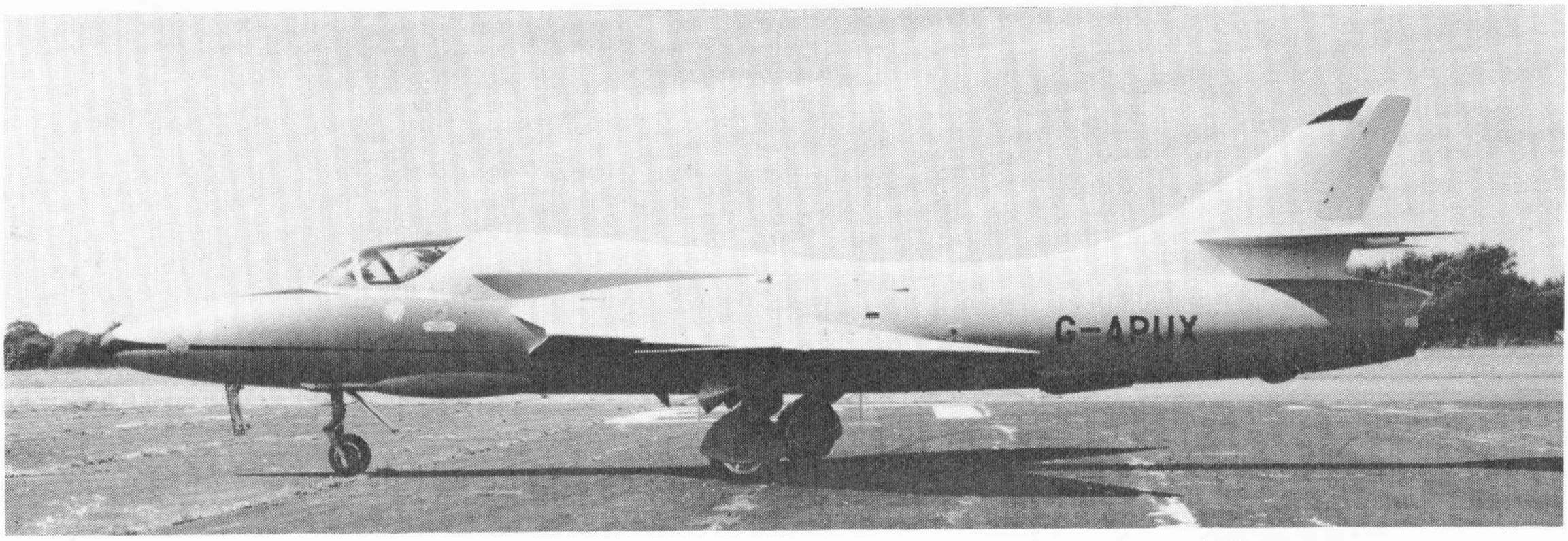
Hunter T. Mk. 8, XL580, flown by Rear Admiral P. D. Gick, Flag Officer Flying Training, F.A.A., R.N.A.S., Yeovilton, U.K.

Nose insignia, No. 764 Sqdn., F.A.A.



Hunter T. Mk. 8, No. 759 Sqdn., F.A.A., R.N.A.S., Brawdy, U.K.

Hunter T. Mk. 8, No. 764 Sqdn., F.A.A., R.N.A.S., Lossiemouth, U.K.



Scarlet, black and cream colours on G-APUX, *the famous Hunter T.66A. An early photo taken in 1959.*
(Photo: Hawker, Neg. No. 28/59)

aircraft emerged from the paint shops with new nose sections and yellow training bands they were indistinguishable from the new-builds.

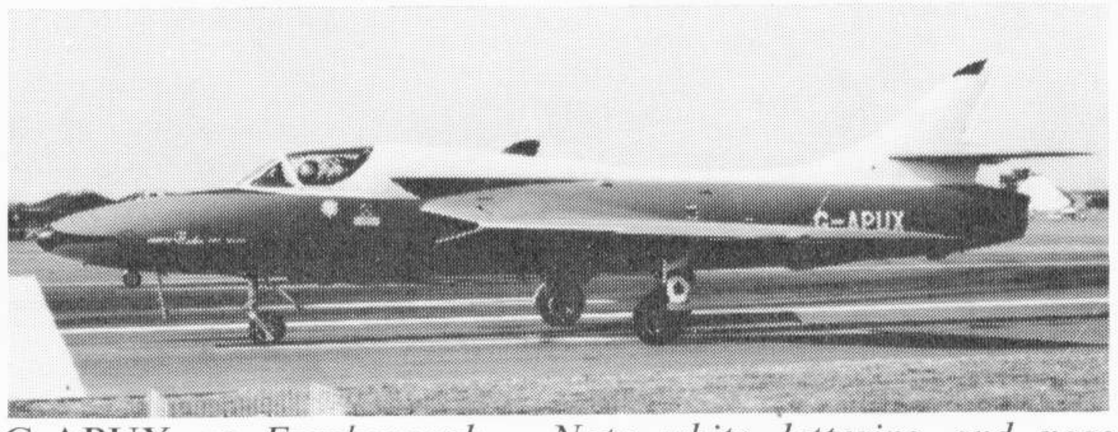
Eighteen further conversions were undertaken to complement the ten newly-built naval Hunter T.8s (diverted from the original Air Ministry T.7 contract). These trainers, like those of the R.A.F., were used primarily for conversion training and were delivered to the R.N. Air Stations at Yeovilton and Lossiemouth, serving on No. 764 (Training) Squadron of the Fleet Air Arm.

The Hunter T. Mk. 8 differed in several respects from the T.7. Apart from the inclusion of naval radio equipment, the T.8 featured an arrester hook under the rear fuselage for use with naval airfield emergency arrester gear, but neither the hook nor its attachment was adequately stressed to permit deck landing—and the T.8 remained dry-footed, as indeed was the original intention.

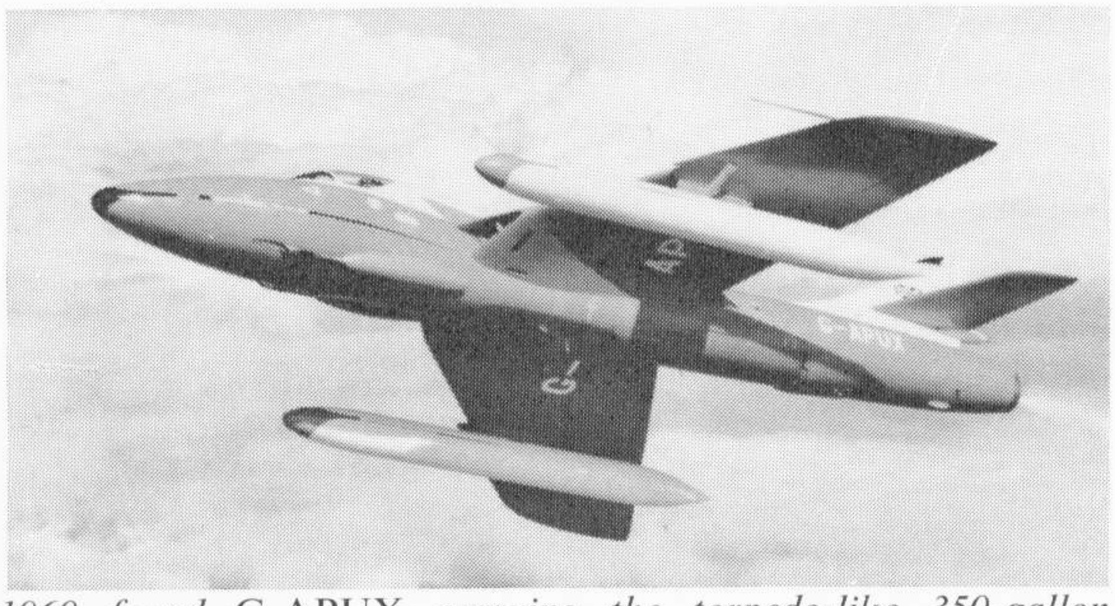
As the months passed and new weapons came to be intoduced into Fleet Air Arm use, the Hunter 8 assumed a new significance, and wiring was introduced to allow, first two-inch rocket batteries and later provision for Bullpup missiles. Much more recently, with the introduction of TACAN equipment in the Fleet Air Arm, the Mark 8 has been modified to accommodate this—after removal of the Aden gun and radar ranging. The Mark 8B is equipped with the full TACAN installation though interim versions (fitted in Hunter T.8Cs) exist as a preliminary to being brought up to the final full standard. Although Hunter T.8s were used as prototypes for the T.8B and T.8C, the introduction of this equipment necessitated the conversion of further Hunter 4s to two-seaters. A parallel requirement in the R.A.F. has resulted in a small number of Hunter T.7As being developed.

THE BIG ENGINE AND FOREIGN ORDERS

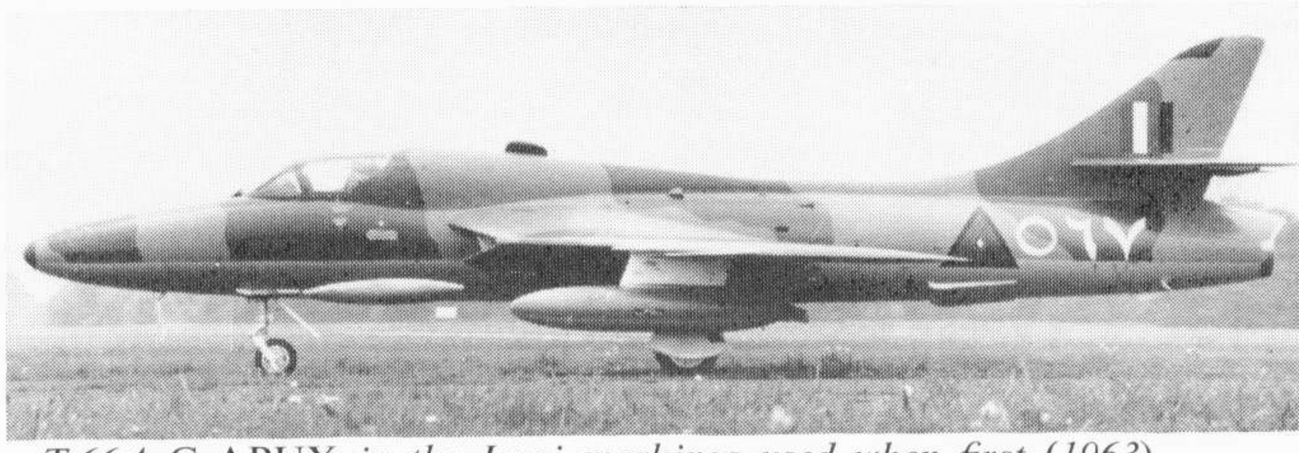
As already remarked, the R.A.F. did not get the big-engined Hunter two-seater (despite a short-lived interest in a night/all-weather fighter version, the P.1114 and P.1115, offered by Hawker during the mid-fifties). It has never been made clear exactly why this was so, but it *was* probably originally felt that the stated ease with which the Hunter single-seaters could be converted to trainers provided a means by which the large number of Mark 4s and 5s could be used. The fate of any likely Hunter 6 conversion was undoubtedly sealed when the production of this was cut back after the 1957 White Paper on Defence; the R.A.F. certainly has never had much in the way



G-APUX *at Farnborough. Note white lettering and nose inscriptions.* (Photo: J. M. G. Gradidge)

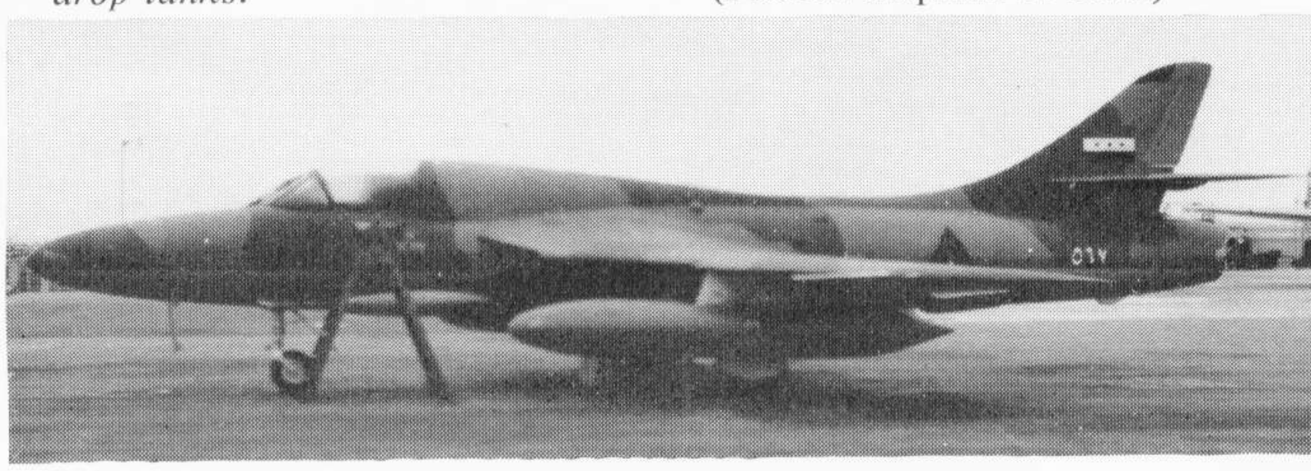


1960 found G-APUX *carrying the torpedo-like 350-gallon drop tanks. The aircraft is depicted in this configuration by P. Endsleigh Castle on page 2 of this* Profile.
(Photo: Hawker)



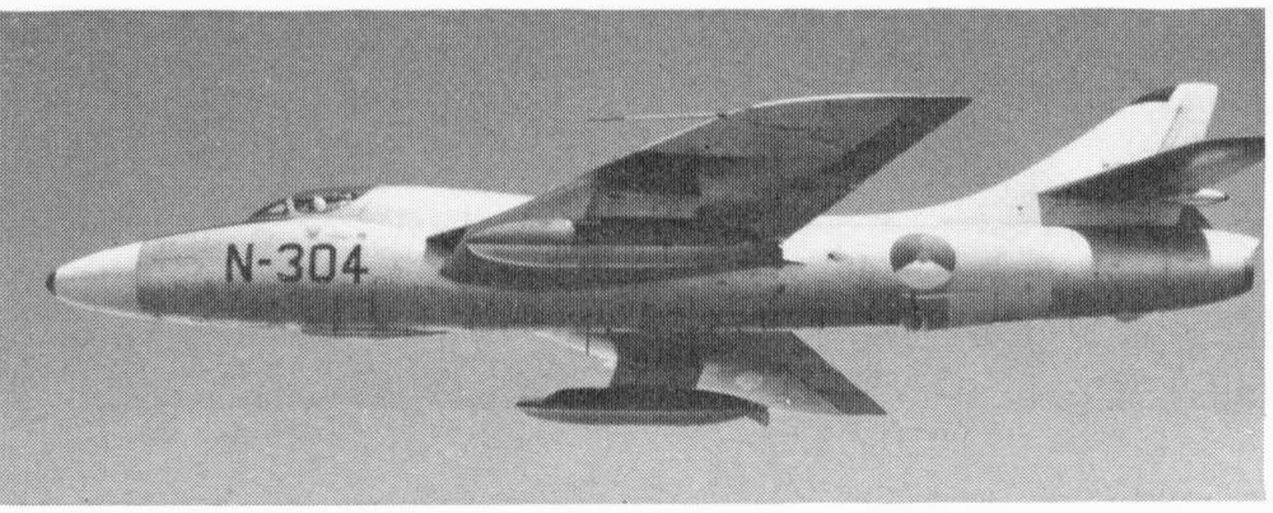
T.66A G-APUX *in the Iraqi markings used when first (1963) leased to Iraq for training purposes. This aircraft was not—as stated elsewhere—a T.69 in this form as it still featured nosewheel braking and radio compass.*
(Photo: Hawker, Neg. No. HG.27/63)

G-APUX *in full T.69 form without nosewheel braking or radio compass, and with revised Iraqi markings. Note 230-gallon drop tanks.* (Photo: Stephen P. Peltz)

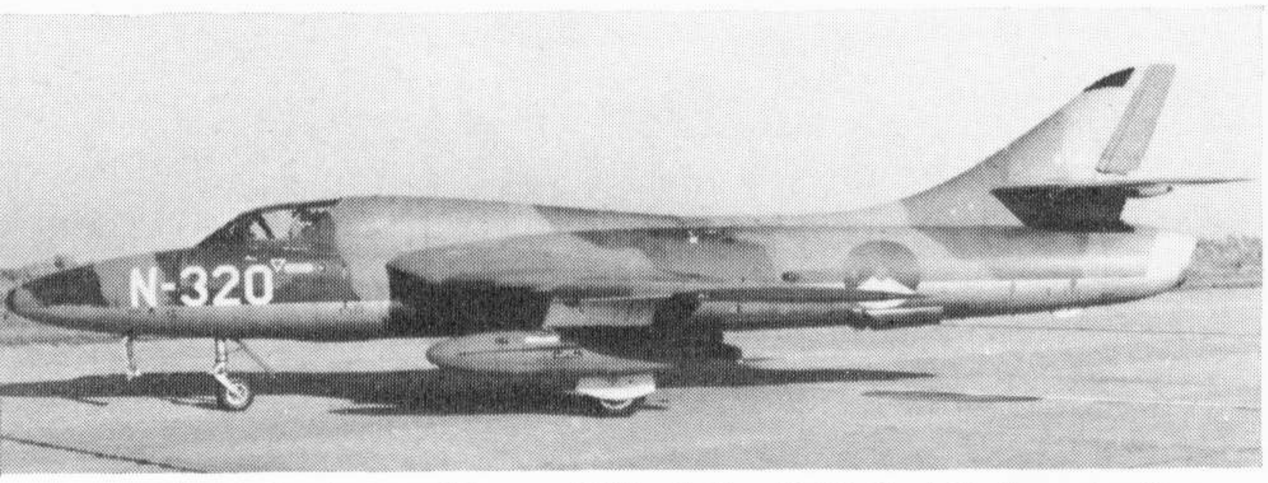


Top: *Second aircraft allocated to Flag Officer, Flying Training*, XL584 (Photo: P. R. March via R. Ward). Upper left: *T.8* XL603 *of 800 Sqdn., F.A.A., Yeovilton* (Photo: P. R. March via R. Ward). Lower left: *T.8C* XF985 *of No. 759 Sqdn., R.N.A.S. Brawdy—note dayglo spine and fin* (Photo: P. R. March via R. Ward). Upper right: *First T.8 assigned to F.O.F.T., R.N.A.S. Yeovilton*, XL580—*high gloss dark blue and white* (Photo: R. C. B. Ashworth). Lower right: *T.8* WV319 *of the Yeovilton Instrument Training Flight—note Flag Officer insignia forward of nose numeral* (Photo: R. C. B. Ashworth). Below: *Third Hunter T.8* XE665 *allotted to F.O.F.T., Yeovilton* (Photo: P. R. March via R. Ward). Bottom: *No. 764 (Training) Squadron Hunter T.8* XF322 *displays squadron insignia, dayglo nose panels and Lossiemouth fin marks* (Photo: P. R. March via R. Ward).

Hunter T.7 XL621 *of Gutersloh Station Flight provides a fine landing study with braking parachute deployed.*
(Photo: Stephen P. Peltz)



Hunter T.7 of the R.Neth.A.F.
(Photo: Luchmachtvoorlichtingsdienst)



Special mission Hunter T.7 of the R.Neth.A.F. (*see text*).
(Photo: Koninklijke Luchtmacht, Fotodienst Vliegbasis, Leeuwarden)

of surplus Mark 6s!

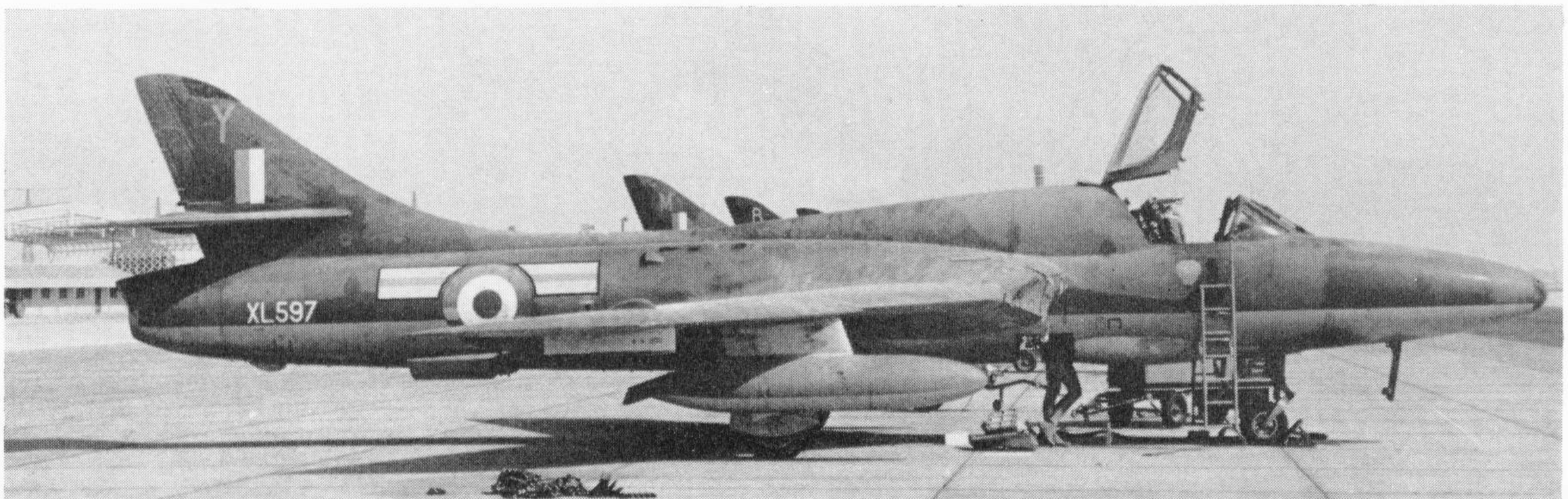
Whatever privations were suffered by the R.A.F., it was natural that, following heavy sales of, and licences to build Hunter single-seaters overseas, the two-seater would follow. Yet perhaps sales of the two-seater at first proved disappointing. Sweden declined, despite the sale of 120 single-seaters; Denmark purchased two (T. Mk. 53s) and Peru one (T. Mk. 62). The Netherlands, on the other hand, ordered twenty Mark 7s, the first ten being diverted from a cancelled Air Ministry contract (*XM117-XM126*). One such aircraft assumed an almost-operational rôle, being used to accompany operational interception sorties with a senior staff observer lest guns be fired in anger.

All these trainers were, like the R.A.F. Mark 7s, powered by the "small" Avon, and by the time they entered service in the overseas countries in 1959 their transonic performance was such that they represented strictly second-line equipment. From the outset however, the Indian Air Force, which had by 1958 ordered 160 Hunter 6s, had taken an active interest in the R.A.28-powered two-seater and was the first customer to place a production order for this version —an initial batch of sixteen Mark 66s being ordered in 1957. Later this was increased to 22, and in 1967 a further twelve (Mark 66Ds), converted from European Continental Mark 6s, were delivered. These aircraft entered service with the Indian Air Force, serving as advanced trainers with Nos. 7, 14, 17, 20 and 27 Squadrons at Ambala and Poona.

Jordan was the next country to order the Hunter 66, taking delivery of but a single Mark 66B in July 1960, one of the Indian two-seaters having been flown by H.M. King Hussein at Dunsfold ! Much more recently a further two such aircraft have been delivered, all three having been converted from ex-R.A.F. Mark 6s.

It has been said that Hawker's early inability to sell the R.A.28-powered Hunter two-seater resulted from the lack of a demonstration aircraft during those critical years between 1956 and 1959. If this was so, the Company put matters to rights when it acquired from Belgium a seriously damaged licence-built Mark 6 which had previously executed a wheels-up forced landing. At Kingston this aircraft was completely rebuilt with a standard two-seat nose (actually one taken from the then-current Indian production line), and on completion it was "taken under Bill Bedford's wing". This fine pilot then set about a painstaking series of flights to have the aeroplane so perfectly adjusted and trimmed as to be, as he put it

An interesting picture of a well-worn tropicalised T.7, XL597, *of No. 208 Squadron, Khormaksar, Aden. While the drop tanks carried on the inboard pylons are fitted with tail fins, the outboard pylons are equipped with jettison guns (note small blister over wing)—a modification not often seen on two-seat Hunters.*
(Photo: Stephen P. Peltz)



"the sweetest Hunter he had ever had the pleasure to fly". Registered *G-APUX* and painted scarlet and white, equipped with radio compass and nosewheel braking, this already-much-travelled aircraft then embarked on a singular career of demonstration. In 1964 it was leased to Iraq as part of a caretaker contract for operational training but returned a year later when, in new colours it was used for demonstrations in Lebanon and Jordan. Its final chapter opened when, on return to Dunsfold in 1966, it was incorporated in a contract placed by Chile for three T. Mk. 72 two-seaters !*

Other customers for the large-engined Hunter trainers have been the Lebanon (three Hunter T.66Cs), Kuwait (two Hunter T.67s) and Iraq (five Hunter T.69s).

One further customer must not be omitted. The Royal Aircraft Establishment at Farnborough and Bedford took delivery of a single Avon R.A.28-powered Hunter two-seater, and at one time, at the height of enthusiasm for the BAC TSR.2, it seemed just conceivable that a small batch of similar aircraft might be put aside for equipment training of crew members destined for that ill-fated aeroplane. As is by now well-known, TSR.2 was too good—and therefore too costly for Britain, but much of its sophisticated equipment had passed the breadboard stage and was already flying in other aircraft. The unarmed Hunter Mk. 12, painted a glossy green and white, carried into the air a huge vertically-mounted survey camera in its nose and was fitted with a "head-up" instrument display, much of the associated equipment being installed in the vacated gun bay (an empty gun blister was retained on the starboard side of the nose).

* * *

It is likely, in view of continuing overseas interest in the Hunter, that a number of further contracts may be placed for both single- and two-seat versions in the future, and apart from the *Profile* (No. 4) on the Hunter 6, further *Profiles* will deal with other versions.

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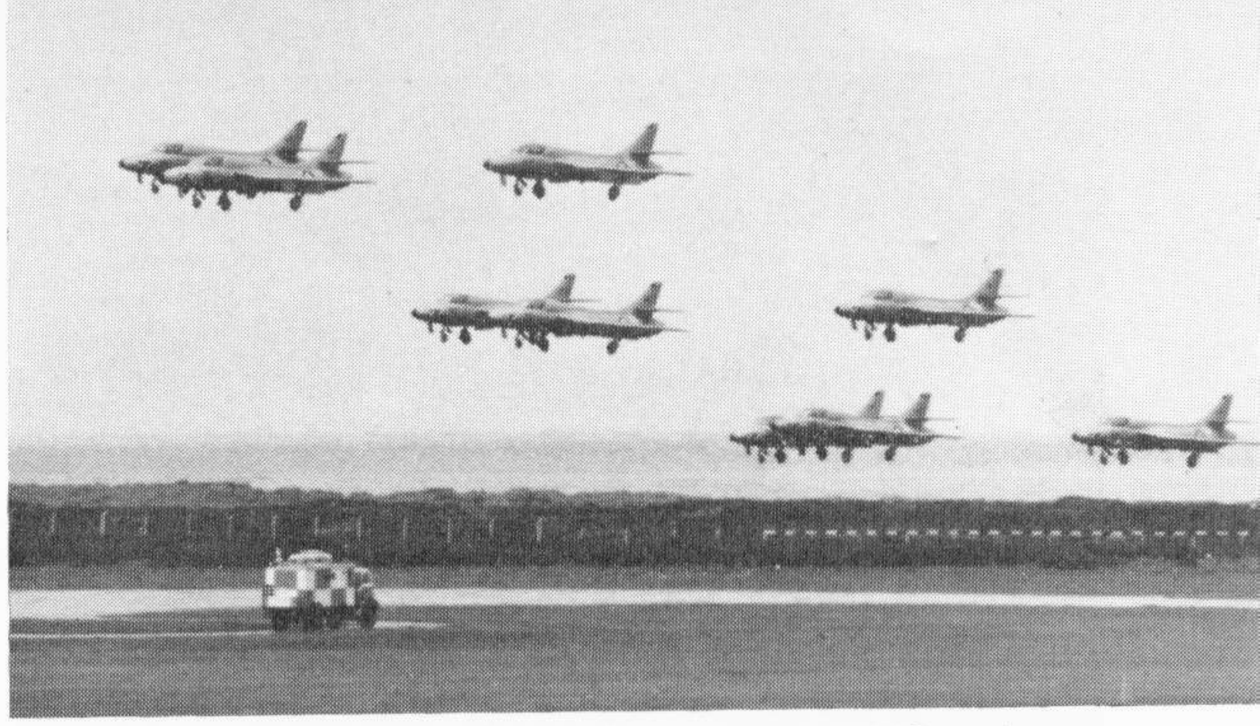
REPRESENTATIVE SERVICE ALLOCATIONS

Hunter T. Mk. 7s in R.A.F. Service

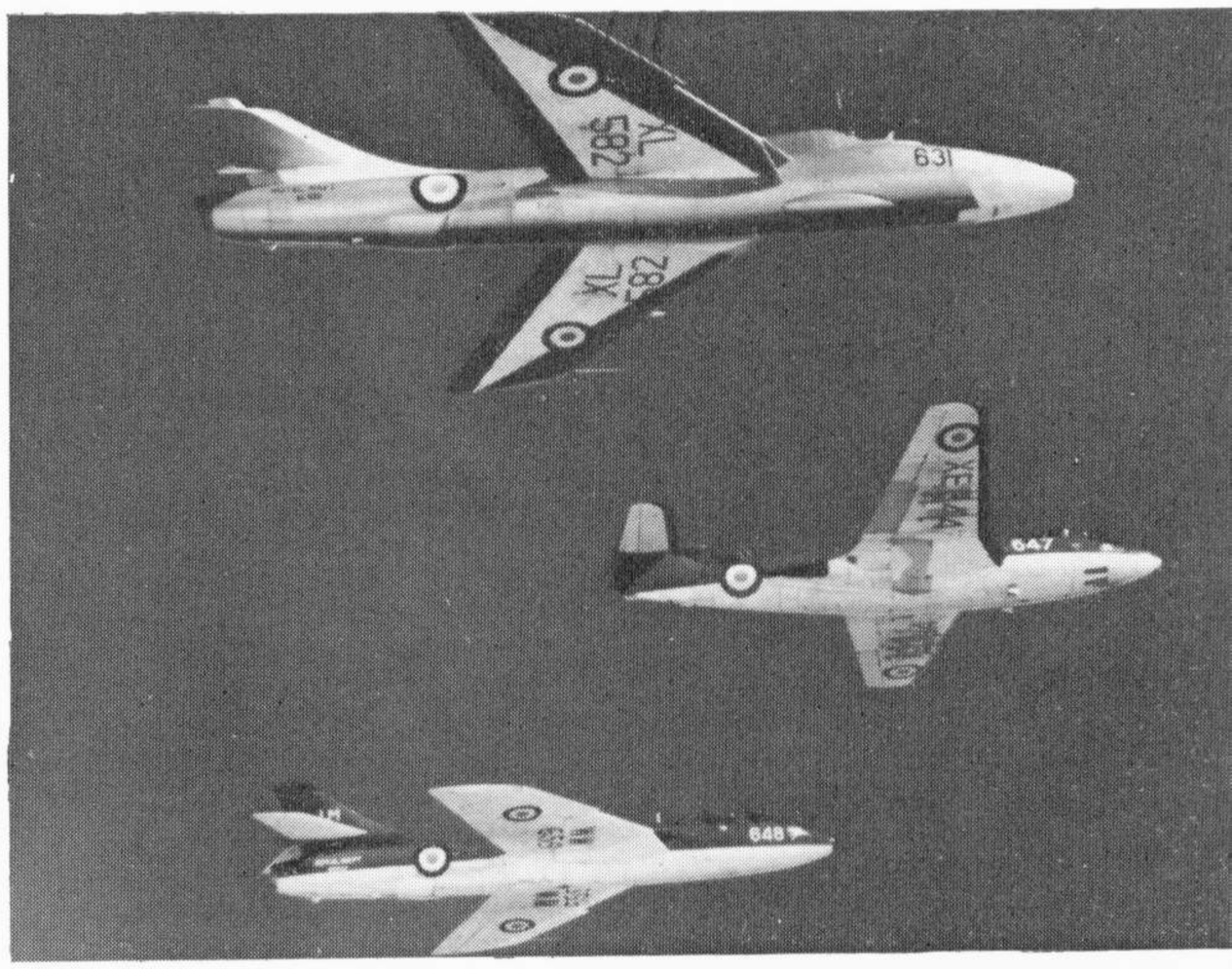
No. 1(F) Sqdn., *XL601;* No. 19(F) Sqdn., *XL594;* No. 20(F) Sqdn., *XL619, XF310;* No. 43(F) Sqdn., *XL566, XL611* (Mk. 7A), *XL612, XL613;* No. 54(F) Sqdn., *XL596;* No. 56(F) Sqdn., *XL609, XF321;* No. 65(F) Sqdn., *XL600;* No. 66(F) Sqdn., *XL597, XL605, XL620;* No. 74(F) Sqdn., *XL568* (Mk. 7A), *XL620;* No. 92(F) Sqdn., *XL571, XL605;* No. 111(F) Sqdn., *XL610;* No. 208(F) Sqdn., *XL565, XL597;* No. 1417 Flt., Aden, *XL565.*

** The full Chilean order was for fifteen F.G.A. Mk. 71s (c.f. ten ex-Netherland, four ex-Belgian and one ex-R.A.F.* (XG232) *Mark 6s), three F.R. Mk. 71As (all ex-Netherland Mk. 6s) and three T. Mk. 72s (the other two aircraft being conversions of Netherland Mark 6s).*

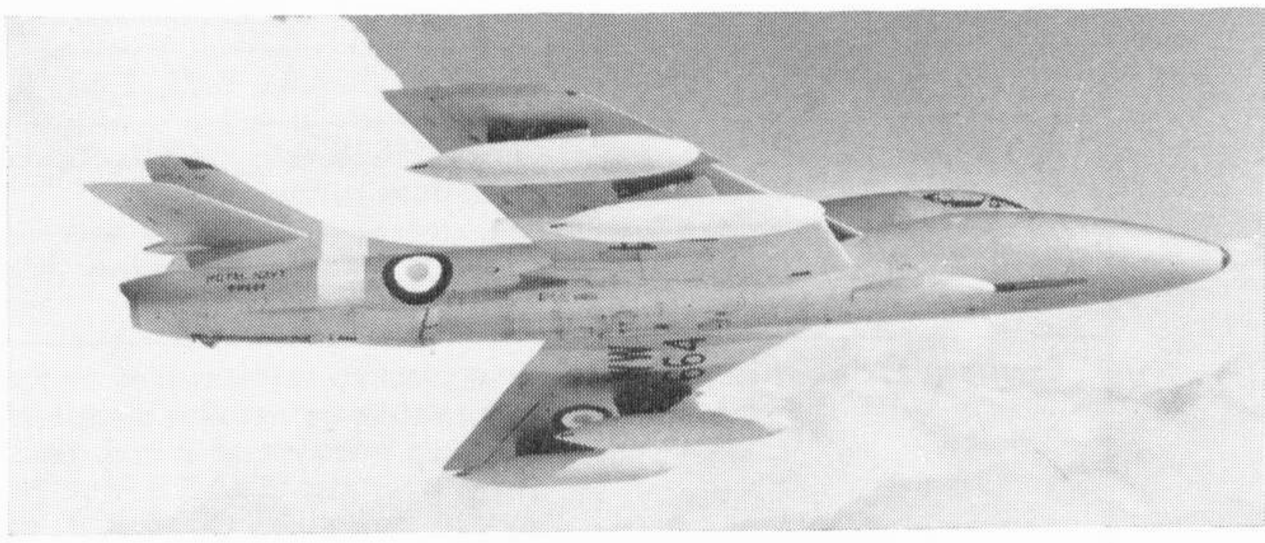
First Danish Hunter T.53, 271. (Photo: Stephen P. Peltz)



Rare landing formation photo of nine Hunter T.8s taken at R.N.A.S. Lossiemouth, August 1960.

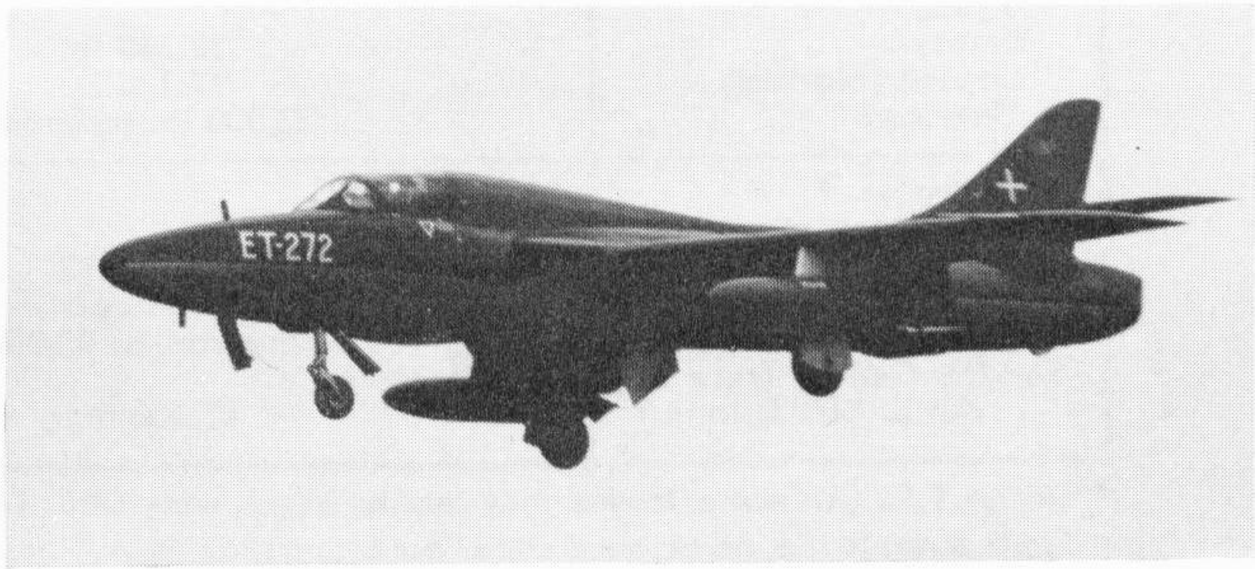


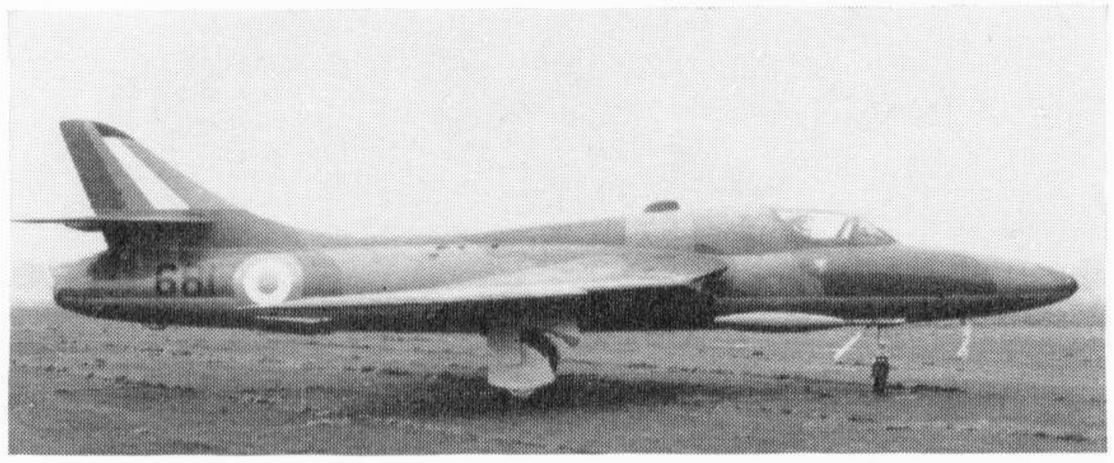
Sea Hawk leading Hunter T.8 XL582 *and Hunter G.A.11* WW569 *of No. 738 Squadron, R.N.A.S. Lossiemouth, June 1962. Note the distinctive dayglo panels on the T.8.*
(Photo: via R. Ward)

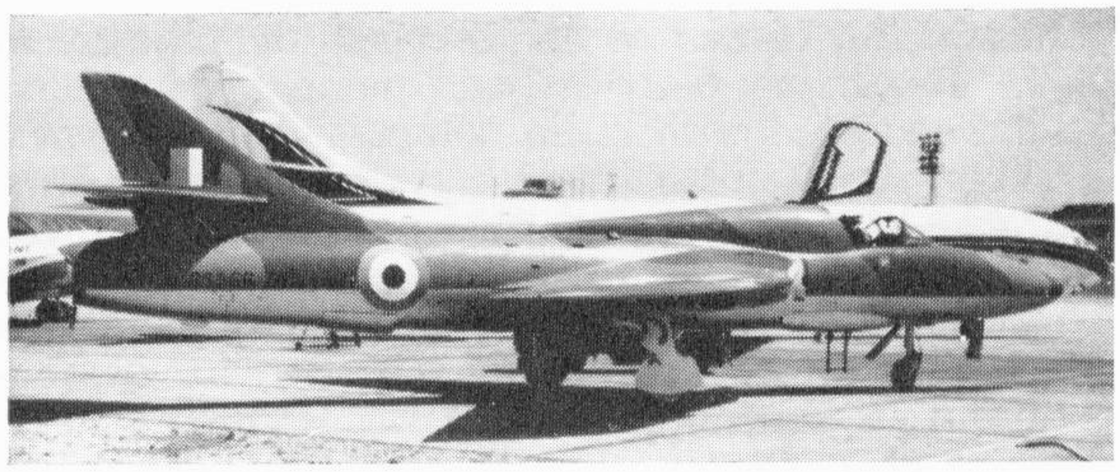


Fine air picture of the T.8 prototype WW664 *with four unfinned drop tanks. This aircraft later became the T.8B prototype.*
(Photo: Hawker, Neg. No. F.54/58)

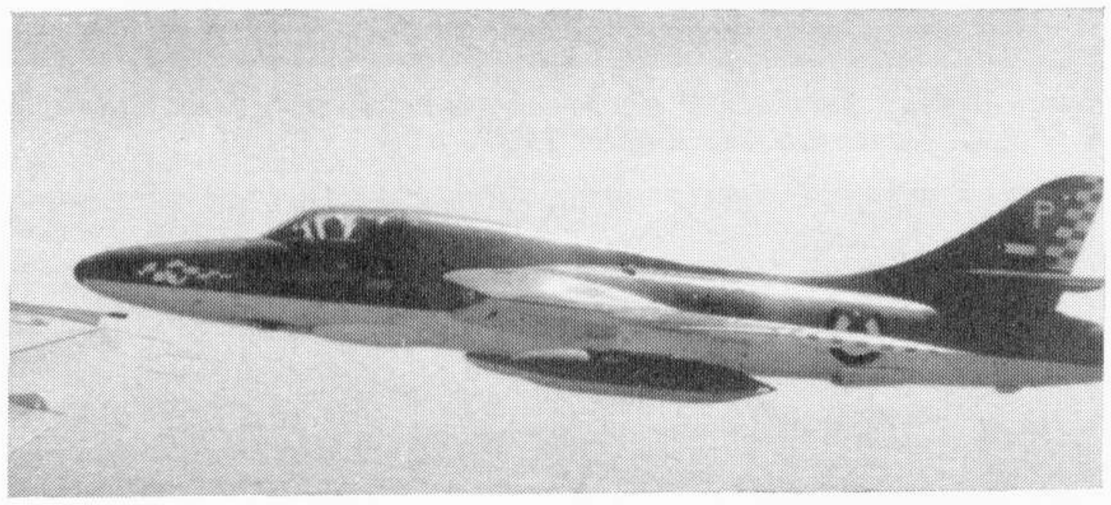
Second Danish Hunter T.53, 272: *note the absence of wing saw-tooth.* (Photo: Stephen P. Peltz)





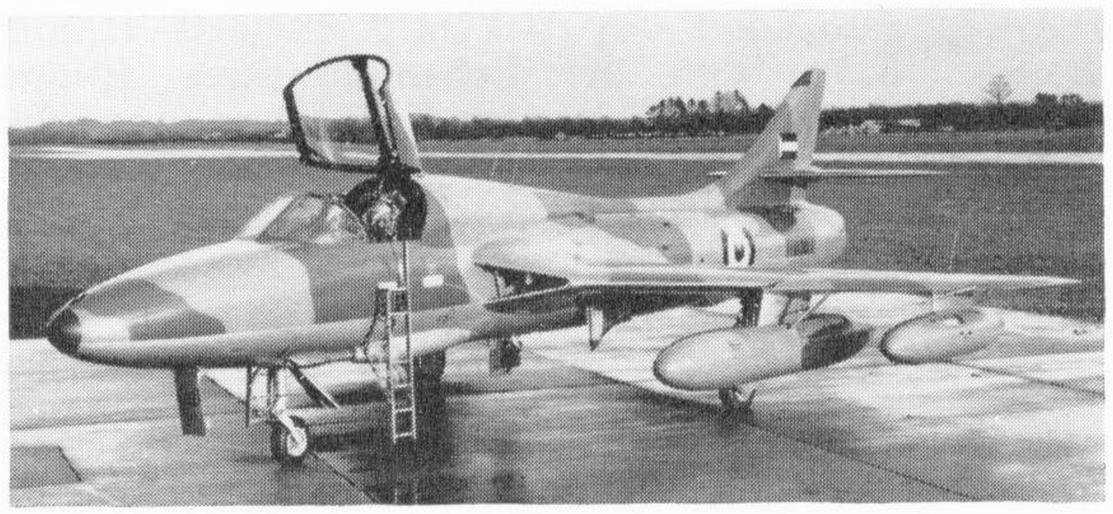


Left: *Peruvian Hunter T.62*, 681. *Note the dorsal radio compass fairing.* (Photo: Hawker, Neg. No. HTG.34/59). Right: *Indian Hunter T.66*, BS366. (Photo: J. M. G. Gradidge).



Left: *Intimate flight view of Jordanian Hunter T.66B*, 714, *in red chequer service marks.* (Photo: Stephen P. Peltz)

Right: *Pre-delivery photo of Jordanian Hunter T.66B*, 800, *complete with 230- and 100-gallon drop tanks.* (Photo: Hawker, Neg. No. HG.1/62)



Station Flights: Khormaksar, *XL613*, *XL615;* Jever, *XL617*, *XL622;* Gutersloh, *XL618*, *XL619*. No. 229 O.C.U., Chivenor: *XL567*, *XL569*, *XL570* (crashed, 29/8/58), *XL571-XL573*, *XL575-XL579*, *XL583*, *XL586*, *XL587*, *XL592*.
Other Units: No. 4 F.T.S., *XL609*, *XL622;* D.F.C.S. and A.F.D.S., *XL573*, *XL591*, *XL593*, *XL595;* I.R.S., *XL567*, *XL571*, *XL575*, *XL594;* No. 402 Weapons Training Sqdn., Sylt, *XL612*, *XL614*, *XL616* (Mk. 7A); Central Flying School, *WV318* (Mk. 7A).
Trials aircraft: Boscombe Down and Dunsfold, *XL563*, *XL564*, *XL566*, *XL574* (the latter was fatigue tested to destruction); Rolls-Royce trials aircraft, *XL565*.

Hunter T. Mk. 8s in Fleet Air Arm Service
No. 738 Sqdn., *XL598;* No. 759 Sqdn., Brawdy, *XF994*, *XL604* (both Mk. 8Cs); No. 764 Sqdn., Lossiemouth, *WT701*, *WT745*, *WV319*, *WV322*, *WV363*, *WW661*, *XE664*, *XE665*, *XF289*, *XL580*, *XL584*, *XL598*, *XL599*, *XL602*, *XL604* (Mk. 8C); No. 809 Sqdn., Lossiemouth, *WV322*.
Other allocations: Flag Officer (Flying Training), *XE665*, *XL580*, *XL584;* R.N.A.M.U., Changi, Singapore, *XF967*.
Aircraft accidents: *WT701* (8/61), *WV397* (11/65), *XF983* (9/66), *XL581* (6/8/58), *XL599*.

Hunter Trainers in Foreign Service
Indian Hunter T. Mk. 66s: No. 7 Sqdn., I.A.F., Ambala, *BS363*, *BS368;* No. 14 Sqdn., I.A.F., Ambala, *BS370;* No. 17 Sqdn., I.A.F., Poona, *BS361*, *BS367;* No. 20 Sqdn., I.A.F., Ambala, *BS364*, *BS366;* No. 27 Sqdn., I.A.F., Ambala, *BS362*, *BS365*.
Danish Hunter T. Mk. 53s: No. 724 Sqdn., Aalborg, *372*.
Peruvian Hunter T. Mk. 62: Escuadron Caza 14, Limatambo, *681*.

SPECIFICATION

	Hunter Two-seater (Avon R.A.21)	Hunter Two-seater (Avon R.A.28)
Versions	All T.7s, all T.8s, T.53, T.62.	Mk. 12, all T.66s, T.67, T.69, T.72.
Powerplant	One 7,550 lb. s.l.s.t. Rolls-Royce Avon Mk. 122 axial-flow turbojet.	One 10,000 lb. s.l.s.t. Rolls-Royce Avon Mk. 203 or 207 axial-flow turbojet.
Armament	T.7, T.53 and T.62: One Aden gun; T.7A, T.8B and 8C: nil.	Mk. 12, nil; remainder, two Aden guns.
External Stores... ...	Provision to carry stores on four underwing pylons, including 500 lb., 1,000 lb. bombs, 100 gallon drop tanks or napalm weapons, 230 gallon drop tanks (on inboard pylons only), practice bombs, Bullpup missiles or 2 inch rocket batteries (according to airframe wiring). Up to 24 three-inch R.P.s or eight HVAR 5 inch rockets outboard. Some R.A.F. aircraft had provision for outboard pylons as well as three R.P. mounts under each wing.	
Dimensions:		
Wing span	33 ft. 8 in.	33 ft. 8 in.
Length	48 ft. 10½ in.	48 ft. 10½ in.
Height	13 ft. 2 in.	13 ft. 2 in.
Wing area	349 sq. ft.*	349 sq. ft.
Weights:		
Empty...	13,360 lb.	13,580 lb.
Loaded (Normal) ...	17,200 lb.	17,420 lb.
Overload	22,500 lb. (approx.)	24,500 lb. (approx.)
Performance: †		
Max. speed at 36,000 ft.	Mach 0·92	Mach 0·93
Max. speed at sea level	603 knots	612 knots
Climb (time to height)	12·5 minutes to 45,000 feet	10·2 minutes to 45,000 feet
Service Ceiling (rate of climb, 500 ft./min.)	47,000 feet	48,900 feet

* *Danish T.53 (without extended wing leading edge), wing area, 340 sq. ft.*

† *Clean aircraft (i.e. no external stores nor pylons).*

Nose insignia, No. 28(F) Sqdn.

Hunter T. Mk. 7, XL601, of No. 1(F) Sqdn., R.A.F. Stradishall, U.K.; yellow training bands on natural metal finish.

Nose insignia, No. 1(F) Sqdn.

"Fighting Cock" insignia, No. 43(F) Sqdn.

Hunter T. Mk. 7, WV383, of No. 28(F) Sqdn., R.A.F. Kai Tak, Hong Kong.

Nose insignia, C.F.S.

Hunter T. Mk. 7, XL611, of No. 43(F) Sqdn., Leuchars, U.K.; yellow training bands on natural metal finish.

Hunter T. Mk. 7, WV318, of Central Flying School, Little Rissington, U.K.

Nose insignia, No. 56(F) Sqdn.

Dayglo nose panel on XL568

Hunter T. Mk. 7A, No. 74(F) Sqdn.

Hunter T. Mk. 7, XL609, of No. 56(F) Sqdn., Waterbeach, U.K.

Hunter T. Mk. 7, XL600, of No. 65(F) Sqdn., Duxford, U.K.

Nose insignia, No. 65(F) Sqdn.

Nose insignia, No. 92 (F) Sqdn.

Hunter T. Mk. 7, XL620 of No. 74(F) Sqdn.; yellow training bands on natural metal finish.

"Tiger's head" insignia, No. 74(F) Sqdn.

Nose insignia, No. 92(F) Sqdn.

Hunter T. Mk. 7, XL571, of No. 92(F) Sqdn., Leconfield, U.K.; "The Blue Diamonds".

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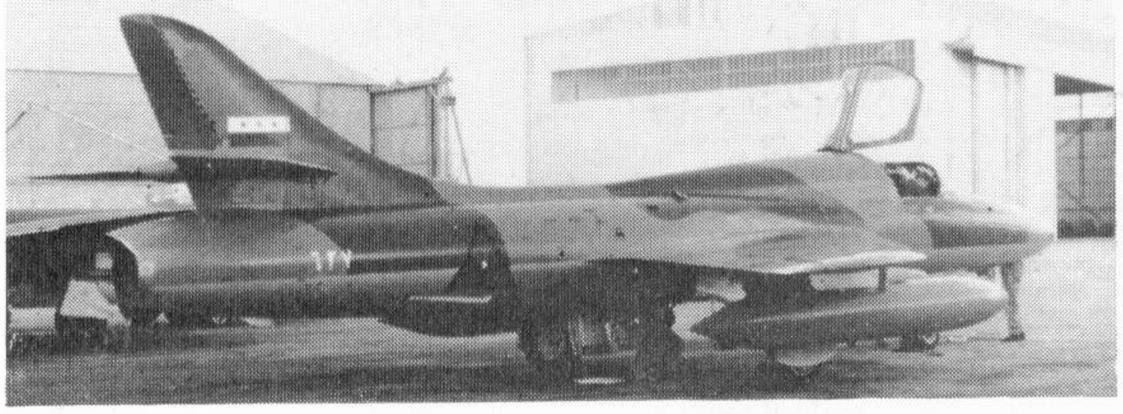

Left: *Genuine Hunter T.69 destined for Iraq.* (Photo: R. C. B. Ashworth). Right: *First Saudi Arabian Hunter T.7 70-616, with four finned 100-gallon drop tanks.* (Photo: D. J. Smith, via R. Ward)

HAWKER HUNTER TWO-SEATER PRODUCTION

New Build:

Contract No.	Number Built	Customer Service	Designation	Engine (Avon) Rating	Serials	Remarks
11595	1	M.o.A.	P.1101	R.A.21	*XJ615*	Later to E.T.P.S. Written off 24/6/64.
11595	1	M.o.A.	P.1101	R.A.28	*XJ627*	Later to Martin-Baker Ltd.
12626/55	45	R.A.F.	Hunter T. Mk. 7	R.A.21	*XL563-XL579, XL583, XL586, XL587, XL591-XL597, XL600, XL601, XL605, XL609-XL623*	*XL568, XL611, XL614* and *XL616* converted to T. Mk. 7A; *XL605* converted to Saudi Arabian Mk. 7.
7355/55	10	R.Neth.A.F.	Hunter T. Mk. 7	R.A.21	*N-301 - N-310*	Direct Company contract.
55/N.022	10	R.Neth.A.F.	Hunter T. Mk. 7	R.A.21	*N-311 - N-320*	Diverted from R.A.F. ex-*XM117-XM126.*
56/D.026	1	R.Dan.A.F.	Hunter T. Mk. 53	R.A.21	*53-271*	Later *EP-271.*
56/D.024	1	R.Dan.A.F.	Hunter T. Mk. 53	R.A.21	*53-272*	Later *EP-272.*
12626/55	10	F.A.A.	Hunter T. Mk. 8	R.A.21	*XL580-XL582, XL584, XL585, XL598, XL599, XL602-XL604*	Some aircraft converted to T. Mk. 8B and T. Mk. 8C (see below).
57/1.03	22	Indian A.F.	Hunter T. Mk. 66	R.A.28	*BS361-BS382*	Other conversions below.

Conversions:

Number Converted	Customer Service	Designation	Engine (Avon) Rating	Serials	Remarks
6	R.A.F.	Hunter T. Mk. 7	R.A.21	*WV253, WV318, WV372, WV383, XF310, XF321*	Ex-R.A.F. Hunter F.4s; *WV318* to T. Mk. 7A.
5	R.A.F.	Hunter T. Mk. 7A	R.A.21	*WV318, XL568, XL611, XL614, XL616.*	Converted from T. Mk. 7s.
2	R.Saudi A.F.	Hunter T. Mk. 7	R.A.21	*70-616, 70-617*	Ex-R.A.F. T. Mk. 7s.
1	F.A.A.	Hunter T. Mk. 8	R.A.21	*WW664*	Prototype; later prototype T. Mk. 8B
17	F.A.A.	Hunter T. Mk. 8	R.A.21	*WT701, WT702, WT722, WT745, WT755, WT772, WT799, WV319, WV322, WV363, WW661, XE664, XE665, XF289, XF322, XF357, XF358*	Ex-R.A.F. Hunter F.4s; all armed with single Aden gun with radar ranging.
4	F.A.A.	Hunter T. Mk. 8B	R.A.21	*WW664, XF967, XF978, XF995*	*WW664* prototype; remainder ex-Mk. 4s. No gun; full TACAN.
11	F.A.A.	Hunter T. Mk. 8C	R.A.21	*WV396, WV397, XF938, XF939, XF942, XF983, XF985, XF991, XF992, XF994, XL604.*	*XL604* prototype; remainder ex-Mk. 4s. No gun; partial TACAN.
1	M.o.A.	Hunter Mk. 12	R.A.28		Head-up display trials at R.A.E.
1	Peruvian A.F.	Hunter T. Mk. 62	R.A.21	*681*	Ex-R.A.F. Mk. 4, *WT706.*
1	(Company)	Hunter Mk. 66A	R.A.28	*G-APUX*	Demonstrator; ex-Belgian Mk. 6, *IF-19.* See below.
1	Iraq, Jordan and Lebanon	Hunter Mk. 66A	R.A.28	Various	Leased to Iraq, 1964; ex-*G-APUX.* Also carried Lebanese and Jordanian colours, 1965-66.
3	R.Jord.A.F.	Hunter T. Mk. 66B	R.A.28	*714, 716, 800*	Ex-R.A.F. Hunter 6s.
3	Lebanese A.F.	Hunter T. Mk. 66C	R.A.28		Ex-R.A.F. Hunter 6s.
12	Indian A.F.	Hunter T. Mk. 66D	R.A.28		Delivery 1967; ex-Continental Hunter 6s.
2	R.Kuwait A.F.	Hunter T. Mk. 67	R.A.28		Ex-Continental Hunter 6s.
5	Iraqi A.F.	Hunter T. Mk. 69	R.A.28		Ex-Continental Hunter 6s.
3	Chilean A.F.	Hunter T. Mk. 72	R.A.28		Ex-*G-APUX* and two ex-Netherlands Hunter 6s.

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